THE FOURTH FIVE YEAR PLAN
(1970—75)

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Pakistan. PLANNING COMMISSION
GOVERNMENT OF PAKISTAN
JULY 1970

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CHAPTER 1

TWO DECADES OF DEVELOPMENT (1950—70)

The country has gone through two decades of development. In the process its economy has altered significantly. The size of the national product has grown substantially, its structure has become more diversified and developed, and the practices and techniques of production have been modernized. For an economy deficient in crucial natural resources, the transformation has come a long way. It has meant sacrifices for large sections of the people. Although the inflow of foreign assistance helped finance mounting development outlays, the burden was also borne by a sizable domestic savings effort, especially in relation to the low level of *per capita* income.

2. This phase of development has also had its limitations. The rate of population growth stepped far above historical rates and much of the gain in output did not lead to improvement in the standard of living. Concentration of wealth increased. The large expansion in the provision of social services proved insufficient to satisfy the needs or aspirations of the people. There was a growing disenchantment with the inequitable nature of the growth pattern, an acute impression that the development process had discriminated against poorer regions and income groups. A careful analysis of the achievements and failures of these two decades is an important step in the preparation of the Fourth Plan.

GNP and Per Capita Income

3. The country's GNP increased by 122 per cent, in real terms, over the twenty year period that is, at an annual rate of 4.1 per cent. The increase was less marked in the first decade over which a 28 per cent increase was recorded than in the second decade which witnessed a 73 per cent expansion. The differential in the growth rate of the two decades was highly significant for the growth of *per capita* output. The increase in the growth rate of GNP from 2.5 per cent in the first decade to 5.6 per cent in the next (*see* table 1) represented the difference between stagnating *per capita* income and significant increases in it, *i.e.*, between a nominal increase in *per capita* income of Rs. 7 over the first decade and an increase of Rs. 91 over the second decade. Influenced by sluggish growth in the first ten years and rapid population growth, rate of growth of *per capita* income over the two decades was restricted to 1.4 per cent per annum. Furthermore, successive Plan attempts to the contrary, disparities in regional income distribution accentuated as East Pakistan's per capita income increased at an annual rate of only 0.7 per cent while in West Pakistan the rate was over 2 per cent. Disparate performance in the agricultural sector, discussed in detail later, and concentration of private enterprise in the industrial sector in West Pakistan were the main factors responsible for the widening gap.

TABLE 1

GNP and per capita Income

Period	GNP (1959-60 factor cost)	Population	GNP Per Capita (1959-60 prices)	GNP Per Capita (current prices)
	(Rs. million)	(Million)	(Rs.)	(Rs.)
1949-50	24,466	79	311	253
1959-60	31,439	99	318	31 8
1969-70	54,280	132	410	567
Compound Growth Rates				
1949-50 to 1959-60	2.5	2.3	0.2	2.3
1959-60 to 1969-70	5.6	3.0	2.6	6 0
1949-50 to 1969-70	4.1	2.6	1.4	4.1

4. The structure of production has changed considerably since 1950. In relation to the 4.1 per cent growth rate in GNP, value added in agriculture grew at 2.6 per cent, in manufacturing at 7.9 per cent, in construction at 13.0 per cent and in the other sectors at 4.7 per cent. Concentration of production on agriculture was reduced as the economy industrialized and urbanized. Agriculture continues to be the dominant sector but its share has declined from 60 to 45 per cent of GNP. The share of manufacturing has doubled from 6 to 12 per cent. The increase in the share of large-scale manufacturing, from 1.4 to 8.8 per cent, is even more impressive. The sharpest acceleration took place in construction activity reflecting the development efforts and the urbanization trend. Value added in construction accounts for over 5 per cent of GNP now compared with less than 1 per cent in 1949-50. The share of transport, trade and public administration also showed an increase.

TABLE 2

Structural Change in GNP

Sector	Value added as a percentage of GNP in 1949-50	Value added as a percentage of GNP in 1969-70	Growth rate in value added
Agriculture	60	45	2.6
Manufacturing	6	12	7.9
Construction	1	5	13.0
Others	33	38	4.7
Total	100	100	4.1

Agriculture

5. The sharpest contrast in the performance of the two decades was visible in the agricultural sector. Whereas in the first decade, the increase in agricultural output was considerably lower than the increase in population, the yields either fell or increased modestly and the *per capita* availability of foodgrains declined in spite of large imports; the increase in output in the second decade was well ahead of the population growth, there was a noticeable increase in yields and the *per capita* availability of foodgrains in the end years increased despite a reduction in imports.

6. Value added in agriculture increased at a rate of 3.9 per cent in the second decade compared to 1.4 per cent in the first decade or at an annual rate of 2.6 per cent over the entire twenty year period, more or less at the rate of population growth. Value added in major crops increased at 3.0 per cent per annum and in view of the heavier use of inputs in relation to output of major crops, the production of major crops actually increased at a faster rate. The relatively better performance of major crops reflects a shift in consumption patterns associated with increases in income as well as the concentrated effort in the Third Plan to achieve self-sufficiency in foodgrains.

TABLE 3

Growth of Value added in Agriculture

(Compound growth rates)

Sub-sector	First decade (1950-60)	Second decade (1960-70)	Overall (1950-70)
Major Crops	1.5	4.4	3.0
Minor Crops	—1.2	4.9	1.8
Other Agriculture	2.4	2.3	2.4
Total Agriculture	1.4	3.9	2.6

7. The production of principal crops, presented in Table 4 below, highlights once again the improved performance during the second decade. Apart from tea, the increase in output is far more pronounced in the sixties, especially in respect of the two principal foodgrains, rice and wheat. The figures also indicate that the expansion in the output of rice and wheat since 1949-50 even though impressive has been only slightly larger than the 65 per cent increase in population. The production of jute, which has not really shown a noticeable increasing trend since 1950 and in which Pakistan has traditionally held a comparative advantage, is quite distressing. Pakistan's share in world exports has fallen considerably only partly due to a shift towards manufacturing and exports of jute products. Similarly, the increase in the output of tea has been overcompensated by an increase in domestic demand, with the result that one of the country's principal exports has virtually disappeared. On the positive side, there has been a big expansion in the output of sugarcane (threefold) and cotton (230 per cent).

TABLE 4

Output of Principal Crops

Period	Rice	Wheat	Sugarcane	Tea	Jute	Cotton
	——(Million tons)——			(Million lbs)	(Million bales)	
1949-50	8.2	3.9	10.0	38.9	6.6	1.3
1959-60	9.5	3.9	15.0	57.0	5.6	1.7
1969-70	13.8	7.1	29.9	70.0	7.0	3.0
1949-50 to 1959-60 (Indices)	116	100	150	147	85	131
1959-60 to 1969-70 (Indices)	145	182	199	123	125	176
1949-50 to 1969-70 (Indices)	168	182	299	180	106	231

*This was the output in 1950-51 which is more representative of normal [illegible]

8. With the exception of jute, there has been a fairly significant increase in the yields of principal crops. For rice, wheat, sugarcane and cotton, the performance during the sixties is a great improvement over the previous decade. This is clearly indicated by Table 5:—

TABLE 5

Yield of Principal Crops

(Maunds per acre)

Crops	1949-50	1959-60	1968-69
1. Rice	10.2	10.7	12.8
(a) East Pakistan	(10.3)	(10.9)	(12.6)
(b) West Pakistan	1(9.4)	(9.0)	(14.2)
2. Wheat	0.1	8.7	11.6
3. Sugarcane	381.3	304.5	453.2
4. Tea	6.3	8.9	7.4
5. Jute	17.1*	19.6	12.9
6. Cotton	2.1	2.3	3.3

*1950-51.

In the first decade, the yields of sugarcane and of rice and wheat in West Pakistan had fallen markedly; in the next nine years the yields of these crops increased from over 33 per cent for wheat to almost 60 per cent for rice in West Pakistan. The yields of rice in East and cotton in West Pakistan also displayed an appreciable improvement over the gains in the fifties. Conversely, the yields of tea and jute, which had risen in the first decade, declined sharply in the next.

9. The tables on production and yields of principal crops also explain at least partly, the imbalance in regional growth in agricultural output. The improvements in the sixties in both production and yields are marked in wheat, cotton, sugarcane, and rice grown in West Pakistan. By contrast, the yields of jute and tea fell during this period and the yield of rice grown in East Pakistan showed a comparatively moderate improvement. This has largely been the result of less favourable conditions for modernization in East Pakistan. Smaller farm holdings and low income levels created severe problems of financing and of institutional organization of heavy investment; floods were destructive as well as deterrent; and, unlike West Pakistan, irrigation was virtually unknown. Finally, high yielding varieties of wheat and even rice gave better results in West Pakistan.

10. The increase in production and yields has come partly from larger area and partly from modernization in farm practices. In West Pakistan, cultivated area expanded by around 30 per cent. Agricultural output on the other hand has nearly doubled. The consumption of chemical fertilizers has shot up from 17,600 to 300,000 nutrient tons between 1954-55 in 1969-70. Despite this increase, the use of fertilizers, still much below average use in more developed

countries, is on a sharply increasing trend. An upsurge in the installation and use of tubewells, which commenced in the late fifties, has not only added to the scarce water availability but assured its timing. The growth in private tubewells, so far confined to West Pakistan, continues to take place at the rate of over 8,000 tubewells installed each year. More recently, within the last few years, high yielding varieties of seeds have been a prominent source of growth. These three highly complementary factors have had a strong impact in West Pakistan where prospects of a prospering agriculture are now emerging. The extension and pesticide services provided by the government also played an important role. The cultivated area in East Pakistan is roughly the same now as it was in 1950. There has been some increase in the area sown to winter rice crop but its impact on total production is still not substantial. A combination of government irrigation and extension programmes, of generous credits and of cooperatives is necessary to achieve a break-through.

11. Notwithstanding the handsome expansion in agricultural output, the *per capita* availability of foodgrains has not increased materially due to a rapid increase in population. This can be seen in Table 6 below:—

TABLE 6

Per capita Availability of Foodgrains

	1949-50	1959-60	1969-70
1. Domestic production (Million tons)	13.3	14.5	22.5
2. Deductions for seed, feed and wastage (10%) (Million tons)	1.3	1.4	2.3
3. Net imports (Million tons)	—	1.2	0.9
4. Total availability (Million tons)	12.0	14.3	21.1
5. Population (Million)	78.8	98.9	132.9
6. *Per capita* net domestic production (oz. per day)	14.9	13.0	15.0
7. Total *per capita* availability ,, ..	14.9	14.2	15.7

In 1949-50, the country was self-sufficient in foodgrains and had a *per capita* consumption of 14.9 ounces per day. By 1959-60, the country was importing 1.2 million tons of foodgrains, approaching 10 per cent of domestic availability; at the same time *per capita* availability fell to 14.2 ounces per day. By 1969-70, imports have declined to less than 5 per cent of domestic availability and *per capita* availability has risen to 15.7 ounces per day. Nevertheless, *per capita* availability has risen by less than 6 per cent in the last twenty years. Besides, most of the increase has occurred in one region in the last couple of years and a substantial portion of it has been consumed at the farm. The urban consumer, especially in East Pakistan, has not felt the benefits of the increase in output.

Manufacturing

12. Twenty years ago Pakistan possessed very few manufacturing establishments. The value added in large-scale manufacturing accounted for a mere 1.4 per cent of GNP. In 1968-69 this ratio had risen to 8.8 per cent.

The average growth rate of 14 per cent achieved in large-scale manufacturing over the two decades is one of the highest in the developing world. This reflects only partially the low base from which Pakistan started. Even in the sixties the growth rate, over a substantially enlarged base, was 12 per cent per annum.

TABLE 7

Large-scale Manufacturing

Period	Value added 1959-60 factor cost	Share of GNP	Index of production
	(Rs. million)	(%)	
1949-50	346	1.4	23
1959-60	1,565	5.0	100
1969-70	4,760	8.8	304

13. The stages of industrialization have passed from the initial concentration on cotton and jute textile, to sugar, vegetable ghee and cement and later on to more sophisticated chemical and engineering industries. By now Pakistan has substantial capacity in textiles, vegetable ghee, sugar, cement, paper, fertilizers and other chemicals and some progress has been made in engineering industries. The country's dependence on imports of basic consumer goods has diminished markedly and manufactures have contributed substantially to the growth in exports. The output of these industries is presented in the following table.

TABLE 8

Selected Industrial Production

Product	Unit	1949-50	1959-60	1969-70†
Cotton Textiles :				
(a) Yarn	Million lbs.	43*	403	720
(b) Cloth	Million yds.	99	606	810
Jute Textiles	'000' tons	—	256	600
Paper	'000' tons	—	39	80
Cigarettes	Thousand Million	0.3	9	40
Vegetable ghee	'000' tons	3	30	105
Sugar	'000' tons	36	144	460‡
Tea	Million lbs.	50	51	65
Fertilizers**	'000' tons	—	51	370
Soda ash	'000' tons	—	27	45
Caustic soda	'000' tons	—	6	30
Cement	'000' tons	417	1,027	2,680

*1950.

**Excludes ammonium nitrate.

†Extrapolation of 9 months output.

‡1968-69.

14. The sizeable build-up in industrial capacity has occurred largely because of the strong incentives provided to the private sector with a wide range of promotional activities by the government. Fiscal concessions were strengthened by a sizeable allocation of foreign exchange resources at subsidized prices to the industrial sector which also gained through beneficial terms of trade *vis-a-vis* the agriculture sector and a gradual decline in real wage. The results achieved are impressive but excessive protection and extra liberal concessions have also led to the establishment of many inefficient industries and neglect of productivity in general. Cost consciousness has not developed. Labour productivity has risen only marginally over the years and is amongst the lowest in the world. While import substitution has occurred in consumer goods, there has been little headway in the production of capital goods ; growth in output of capital goods was further inhibited during the Third Plan period by the shortage of raw materials and spare parts resulting in substantial underutilized capacity. The country has yet to develop managerial and technical personnel necessary to conduct industrial operations in a modern scientific manner. While a great deal has been accomplished in building up an industrial sector from scratch, the more complex and challenging tasks of creating a balanced, efficient and modern industrial sector have not been tackled satisfactorily.

Foreign Trade and Aid

15. In the first few years after Independence, Pakistan's exports relied very heavily on raw jute and raw cotton with inevitable and sharp fluctuations in earnings. Exports surged for the duration of the Korean boom in the early fifties and collapsed when it was over. In 1954-55 the country's exports reached their lowest level. At this point the currency was devalued and a minor recovery ensued. Nevertheless, at the turn of the decade there was gloom regarding export prospects and the Second Plan suggested a more 2.9 per cent rate of growth in exports. Export earnings however, experienced a growth rate of about 7 per cent during the period (1960—65). The innovation of the export bonus scheme was largely responsible for the change. Combined with the rapid growth of the industrial sector, manufactured exports have been increasing at an average rate of 20 per cent per annum in the sixties. As a result, total exports over the second decade have increased by a healthy rate of 7 per cent per annum. Manufactured exports now account for over 60 per cent of merchandize exports.

TABLE 9

Merchandize Imports and Exports

	1954-55	1959-60	1964-65	1969-70
Value in current prices : (Rs. Million)				
Exports	1,223	1,843	2,408	3,250
Imports	1,103	2,461	5,374	5,310
Quantum index:				
Exports	100	143	189	243*
Imports	100	153	427	247*

Source : C.S.O. except 1969-70 which is Planning Commission estimate.
*Relates to 1968-69, the last year for which the index is available.

16. The turning points in imports occurred in the sixties. Owing to a sharp increase in aid flows, the level of imports doubled over the Second Five-Year Plan. The Second Plan period also witnessed a major change in import policies. Two big measures were taken towards decontrolling imports. The export bonus scheme placed many imports on bonus which were free from licensing. Secondly, with the increasing availability of commodity aid, rigidities of licensing system were relaxed from raw materials and several essential capital goods. The government continued with this policy during the Third Plan even though the level of aid had fallen since 1965-66. The effective price of imports was raised gradually. This more or less balanced the potential demand for these goods with the reduced availability of resources but the actual flow of intermediate goods and spare parts has been considerably lower than the needs of industries for optimum production. This has thwarted the planned growth rates in industrial output.

17. Though on the eve of the Second Plan period external assistance had increased from about 1 per cent of GNP in 1954-55 to 3 per cent in 1959-60, by 1964-65, the level had increased to over 6 per cent of GNP. Excluding PL-480 and Indus Basin, aid commitment increased from Rs. 4,800 million to Rs. 9,500 million from the First to the Second Plan. During the Third Plan a further Rs. 11,350 milllion was committed. There was a continuous shift in the pattern of aid throughout the last fifteen years, away from grants and towards loans. Excluding PL-480 and Indus Basin, loans as a percentage of commitments increased from 37 in the First, to 85 in the Second and over 96 in the Third Plan. Consequently, the debt servicing liability increased sharply during the Third Plan. Contractual payments on this account have grown at a rate of about 14 per cent per annum during the sixtees. The ratio of debt service to exchange earnings moved up from 4 per cent in 1960-61 to 11 per cent in 1964-65 and to 19 per cent in 1969-70.

Investment and Savings

18. The investment and savings effort over the last twenty years has been fairly impressive. Each of the three plans sought to more than double development expenditures over the preceding Plan. Thus, the proposed expenditure of the Third Plan was five times the size of the First Plan (1955—60) and twenty times that of the more limited six year Colombo Development Programme (1950—56). Even after allowing for the shortfall in the Third Plan, the investment and savings performance has been quite encouraging.

19. It will be seen from Table 10 that investment as a proportion of GNP rose from less than 4 per cent in 1949-50 to 8.9 per cent in 1959-60 and 18.3 per cent in 1964-65. To a considerable extent the large aid inflows, especially during the Second Plan, facilitated this remarkable escalation of investment ratios. With lower aid levels during the Third Plan, the investment ratio fell sharply.

TABLE 10

Investment and Savings

	1949-50	1959-60	1964-65	1969-70
Current prices (Rs. Million):				
Gross Investment	705	2,900	8,890	10,600
Gross Savings	440	2,000	5,700	7,610
Per Cent of GNP:				
Gross Investment	3.5	8.9	18.3	13.5
Gross Savings	2.2	6.1	11.7	9.7

20. The movement of savings paralleled that of investment. The average rate of savings rose from 2.2 per cent in 1949-50 to 6.1 per cent in 1959-60 and to 11.7 per cent in 1964-65. During this fifteen year period there was evidence of a strong complementarity between savings and external resources inflow. This was a natural reflection of the import intensity of investment. Decline in the flow of aid after 1964-65 had an adverse effect on savings and investment. The impact was compounded by the unavoidable increase in defence expenditures. The average rate of saving fell below 10 per cent in 1969-70 and the marginal rate of saving was halved from about 15 per cent in the first fifteen years to 7.5 per cent in the next five years, but this deterioration was accompanied by increasing self-reliance. Domestic savings financed 72 per cent of investment in 1969-70 against 69 per cent in 1959-60 and 64 per cent in 1964-65. Moreover, the mobilization of resources by the Government was heartening. Taxes as a proportion of GNP rose from 6.1 per cent in 1959-60 to 8.2 per cent in 1964-65 and to 9.4 per cent in 1969-70.

Social Sectors

21. One of the main inadequacies of our development process is the neglect of social sectors. It is true that the provision of social services have not fulfilled the needs or aspirations of the people; and the shortfall in resources during the Third Plan was accompanied by severe cuts in social sector programmes. It will, however, be clear from the table below that substantial progress has been made in this sphere as well. Since the coverage of social services at Independence was minimal and since the population has expanded rapidly afterwards, the expansion in social services has been insufficient and sizeable portion of the population is bereft of those necessities. Steps have already been taken to attach higher priority to the social sectors. But with our resources, deficiencies are likely to remain for some time and a satisfactory, comprehensive solution can only be achieved in the long run.

TABLE 11

Education and Health

(Thousands)

Item	1949-50	1959-60	1969-70
Educational Enrolment			
Primary Schools	3,400	5,200	10,500
Secondary Schools	700	980	2,710
Colleges and Universities	40	210	490
Health Facilities			
Doctors	3	12	21
Nurses	1	3	5
Hospital Beds	17	27	39

Other Indicators

22. There are many other indicators of progress. Bicycles, transistor radios, watches, cars, telephones and other consumer durables which figure prominently in the standard of living, once scarce are now visibly numerous. Supply of hygienic drinking water has considerably replaced the all purposes wells or ponds. Telephone connections have multiplied. Modern diesel locomotives have replaced the slow steam engine and the first attempt at electrification of railways is nearing completion. Road transport has flourished in West Pakistan and an inter-city road network has been initiated in East

Pakistan. An efficient, modern national airline has been successfully developed and it continues to widen its network and increase the frequency of its operations each year. These are some of the typical elements in a nation's progress and in the improvement in the living conditions of its people.

Development during Third Five-Year Plan

23. Various developments have taken place during the Third Plan period which have implications for the strategy of the Fourth Plan. During the Third Plan the economy had to operate within a tremendous squeeze on resources. The combined impact of reduced aid flows and increased defence expenditures introduced a scarcity of development funds notwithstanding a doubling of the proposed Plan target of additional taxation. Investment and savings rate declined significantly and intermediate industrial imports were cut sharply. The revised strategy of concentration on agriculture did recompense somewhat for the fall in industrial growth rate but here too recurrent floods in East Pakistan and droughts for two successive years in West Pakistan led to foodgrain shortages in some years. The scarcity of development funds hurt social sector programmes most. These sectors bore the brunt of the squeeze since attempts to safeguard growth impulses were given first priority. The disparity in *per capita* income of East and West Pakistan also increased during the period because the agricultural break-through was limited to West Pakistan. The growing imbalances in personal and regional incomes, the cut in social sector programmes and the rising cost of living underlined the need for greater attention to social objectives. These compulsions can no longer be ignored in the Fourth Plan.

Conclusion

24. The economy has gone through various phases of development. The second decade saw the beginnings of a deep commitment to planning for development; the end of stagnation in agricultural output and in exports; the upsurge in foreign aid and investment expenditures; the diversification of the economy in industrial output and exports. It also saw the emergence of acute problems especially during the Third Plan period when aid inflows were frozen at the 1964-65 level, the debt servicing burden mounted, defence expenditures doubled, investment and saving rates declined, droughts and floods in 1966 and 1967 created new problems, prices shot up, real wages fell and imbalances in regional and personal income widened. The justification of an inequitious, aid-absorbing process of development was questioned. At the end of the period a decision to reset priorities was taken and measures adopted to reflect these priorities. Minimum wages, substantially above prevailing wage rates, were laid down for the organized private sector. Monopoly and cartel laws were framed. The expenditure on social sectors was raised sharply. It was, however, becoming obvious that a completely new look was necessary on the qualitative aspects of development. This has inevitably led to the evolution of a new development strategy. The Fourth Plan must seek to integrate social change with economic progress.

CHAPTER 2

TOWARDS A NEW DEVELOPMENT STRATEGY

In the last two decades, the basic objective of national economic policy was to seek maximum possible economic growth through encouragement of private enterprise backed by provision of social, physical and institutional infrastructure by government. This, no doubt, led to a relentless pursuit of economic growth but was necessitated by the low level of development in the country and its thin margin of resources. The desired goal of equitable distribution of incomes had to wait till the level of production had risen sufficiently to make such distribution possible.

2. During the 1950s, the economy was virtually stagnant. Increase in production barely kept pace with the increase in population and there was some decline in *per capita* incomes. The major challenge for the 1960s, therefore, was to break this stagnation and demonstrate that economic growth was possible, given the national will to mobilise the country's human and material resources and channel them into productive effort.

3. It was for the first time during the Second Plan period (1960—65) that the growth rate in production significantly exceeded that in population and the *per capita* income increased at the rate of nearly 3 per cent per annum. But even after this improvement, the average annual *per capita* income increased from Rs. 318 in 1960 to a little over Rs. 400 by 1965 or about Rs. 135 per month for an average family. This underlines the level of poverty from which the country had started and the difficulties inherent in the development process in the context of the meagre natural resources that the nation possessed. These difficulties were compounded by the fact that savings were required for future growth and these had to come out of the nation's current income. The entire increase in the GNP, therefore, could not be consumed ; a substantial part of it had to be saved and reinvested if the prospects of future growth had to be kept alive.

4. Throughout the last two decades, the economy has been operating on a precarious margin of resources. Even though gross domestic savings increased from a mere 2 per cent in 1950 to a level of around 10 per cent in the early 1960s, more than half of it was required just to replace capital stock which was getting depreciated. Thus, despite the progress made in the Second Plan period, the country required foreign assistance to supplement its own efforts. The level of foreign assistance kept accelerating till 1965. In particular, the availability of foodgrains under PL-480 assistance permitted some increase in the level of domestic consumption which would have otherwise been under pressure because of the increasing effort to mobilise resources for development.

5. Unfortunately, the climate for foreign assistance deteriorated suddenly after 1965 at a time when our requirements for development outlays had increased and when larger defence spending was also claiming a part of the resources previously available for development. The constraint of resources during the latter half of the 1960s became so serious that it could have strangulated our development effort but for the adjustments which were made in development priorities, concentrating on more immediately productive sectors and projects. The nation, however, had to pay a heavy price for this. The genuine requirements of the social sectors, like education, health and housing, were badly neglected. The squeeze on the urban areas was particularly severe because of the burden of additional taxation which had to be imposed to restore economic development and because of the sad state of urban community facilities. The conflict between economic growth and social justice became fairly sharp during this period.

6. At the same time, the dimensions of development changed as did the climate of expectations. The masses started demanding a share in the economic progress achieved during the 1960s. The workers resented the decline in real wages at a time when industrial expansion was proceeding at a rapid rate. The small farmers felt that the initial gains of higher agricultural productivity were confined mostly to the large, commercial farmers. The less developed areas protested that economic growth was concentrated in a few urban centres and in a few growing areas while their genuine requirements for development were ignored. The stage was set, therefore, for the social and economic confrontations which took place in early 1969. This happened against the backdrop of a major political upheaval in the country but it should be recognised in any frank analysis of the past development strategy that they also represented a forceful articulation of the deeply felt aspirations of the masses.

7. The development strategy for the 1970s has to change fundamentally. While essentially protecting the growth rate already achieved, a greater regional and social balance is being attempted in its composition. With the margin of growth in income over and above the increase in population, a more aggressive social policy can be followed. There is a wide area over which the objectives of economic growth and social justice are not in conflict and dictate some common policies. For instance, anti-monopoly legislation would, in addition to creating a better social balance, enlist the support of a large class of potential entrepreneurs for the process of development. Similarly progressive withdrawals of incentives—which were regarded essential in the early stage of development—would now apply the needed pressures for greater efficiency. Taxation of large incomes would cut luxury consumption, releasing resources both for development and provision of social amenities for the poor.

8. The choices open before the nation do not always dictate a sacrifice of growth objectives in seeking greater social justice. The challenge for economic management during the Fourth Plan would be to identify and move along the path where these objectives coincide. However, when there is a confict, much greater emphasis has to be placed on considerations of social justice. Economic growth is a means and not an end in itself. It should help and not hinder the evolution of a just society. People would rather have a slower growth rate than tolerate a further growth in inequalities in income distribution.

9. Economic development in the final analysis means the transformation of the entire society and evolution of a new set of relationships among its various components. No plan can seek to define the shape of the society which is to be evolved as a result of the development effort. A national consensus must emerge on this basic issue through the political process. It is, therefore, too early to firm up a number of elements in the new strategy, in view of the impending political change. In the meantime, however, action has become imperative on a number of issues where a consensus is apparent and the need urgent. Socio-Economic Objectives of the Fourth Five Year Plan presented to the country in November 1968 identified the imbalances and distortions that had emerged over the past twenty years and some of the choices and options open to the nation in formulating a new development strategy for the 1970s. During the final fifteen months of the Third Plan, a number of policy changes and legislative measures were adopted by the Government in quick succession to give a new direction to the economy. The Fourth Five Year Plan seeks to consolidate this process and carry it further with a view to meeting urgent social needs and improving the qualitative content of growth. This is intended to continue the reform without foreclosing the options before the nation.

Income and Price Policy

10. Reliable indices about the distribution of income in the country are not available at present. The scattered information that can be put together reveals that income distribution has become fairly skewed in the process of economic development. Real wages declined by about one-third during the 1960s. The fixed income groups were hurt by an overall increase in prices of about 40 per cent over this decade. The landless labour increased and there was little gain in the real farm income per head for the small farmer. The inequalities between various income groups not only increased but also became more vivid by the growing awareness of the masses as a result of rapid urbanisation and the development of mass media of communication. The symbols of luxury consumption highlighted the gulf between the abject poverty of the 'have-nots' and the ostentatious living of the 'haves'.

11. The fixation of minimum wages for unskilled workers during the final year of the Third Plan improved the situation to a certain extent. However, in order to contain inequalities in future within socially acceptable limits, it is imperative that a comprehensive income and price policy be formulated within the Fourth Plan period. The following elements would be relevant in devising such a policy:

(i) The collective bargaining process should be allowed to improve the wages of workers not covered by minimum wage legislation. Alternatively, it may be necessary to extend the minimum wage to other sections of the society. For the Government employees, a Pay Commission has already been set up.

(ii) The present enormous differentials in minimum and maximum incomes should be reduced by appropriate policy measures. It would be necessary to review all subsidies which are conferring windfall profits or unearned increments on various sectors of the society or various income groups. In particular the hidden subsidies in existing licensing system and the tax concessions and allowances would have to be critically examined with a view to their elimination.

(iii) Greater equality of opportunity should be provided by the rapid spread of educational facilities and through competitive entry to jobs.

(iv) Fiscal policy would have to be used to tax the rich and provide relief to the poor. This means that greater reliance will have to be placed in future on direct taxation. A Taxation Commission with comprehensive terms of reference is being set up to examine these issues and recommend concrete policy changes.

(v) A Consumption Plan has been prepared which projects the annual requirements of essential commodities and gears the programmes of production and import to meeting these requirements. This must be combined with a definite price policy to protect the consumer from the rising cost of living and to establish a ceiling beyond which annual increases in prices should not be permitted.

Social Services

12. A comprehensive income and price policy will be an ambitious goal which has not been attempted elsewhere in the developing countries. In formulating such a programme, we must be realistic and take into account the present conditions in the country. It will not be wise to choose unrealistic targets. It will be far better to draw up a realistic long-term programme even

if it is modest, and to define concerete steps whereby such a programme can be implemented within the total national resources.

13. The major mechanism by which the Government can affect social welfare at present is by providing social services, either free or at a subsidized rate. The Fourth Plan provides for a major increase in the spending on social services, *i.e.* education, health, family planning, housing, environmental sanitation. The Plan proposes an allocation of 27 per cent of the total development resources to these social services as compared with 20 per cent in the past. It also proposes a major increase in recurring expenditure on these services. There will be an acceleration of about 158 per cent in the level of spending on social sectors during the Fourth Plan period over the Third Plan. This is as much as the country can afford as even this level will involve major constraints on the productive sectors of the economy.

14. We must be careful to ensure that an increase in the expenditure on these services genuinely promotes social welfare and does not merely subsidize middle and upper class consumption. The decision to raise spending on social services does not by itself increase social justice. In education, which is the biggest social service, there is presently a strong tendency to subsidize the higher income groups rather than the poor. We must ensure that entry to publicly subsidized higher education is based on strict merit. In colleges and universities, and possibly in secondary schools, it is worth contemplating the imposition of higher fees on students whose families are in the higher income groups while providing liberal scholarships to the low income groups on the basis of merit.

15. In the past, we had some success with malaria eradication and family planning programmes but general health programmes have been meagre and many of the benefits have been misallocated. We provided lavishly for medical education but of the new doctors many migrated and most of the others worked only in the cities. In future, we must give greater attention to train medical auxiliaries who will work in rural areas. Rural health centres should be given priority over urban hospitals. In the field of physical planning and housing, there have been major shortfalls in targets of low cost housing and water supply and sewerage. The House Building Finance Corporation has not been able to cater to credit needs for low-income housing. Improvements in water supply and drainage have usually been concentrated in the most prosperous areas of towns. We are still too poor to undertake more than a token programme of subsidized housing in urban areas but we can certainly reflect more appropriate priorities within this sector by encouraging low cost housing, imposing deterrent taxes on luxury housing and spending more on environmental improvement and water supply and sewerage. The Urban Programme, which is being proposed for the Fourth Plan period, is expected to go some way in meeting the rapidly expanding community needs in the larger cities.

16. With present levels of income, we cannot afford the cost of a universal system of social insurance which would provide old-age pension, unemployment pay, compensation for redundancy, sickness benefits and free health services. However, in the longer run, we should certainly move towards a comprehensive system of social insurance and we should now take the first step in the form of compulsory insurance for industrial and commercial workers in large cities. It is a matter of satisfaction that the Government servants have already been covered by such a scheme on a self-help basis. To begin with, the scheme should be restricted to old age pension and health benefits and could be financed by a pay roll levy with contributions from employers and workers and some help from the Government. At a later stage, the scheme can be extended to cover unemployment benefits.

Concentration of Industrial Incomes

17. There has been a good deal of criticism in the country on the question of concentration of industrial incomes and wealth. Such a debate is almost inevitable in the second stage of industrialisation through which we are passing when the first generation of industrialists have established a firm foothold, when capital is no longer shy, when new comers and new areas demand the same opportunities as enjoyed by the early arrivals and when the control of industrial power in a few hands starts endangering competition and the very sources of creative enterprise. A stage of development has now been reached when certain basic reforms should be introduced to contain the concentration of industrial incomes and wealth. Certain factors underline the urgency of a timely action:

(i) The first generation of industrialists, which earned its wealth at least partly through its entrepreneurial ability, is now handing it over to the second generation for whom it is largely an unearned windfall.

(ii) The first phase of industrialisation is nearly over and the second one is starting now. The second phase will be concentrated more on sophisticated industries where the question of technical know-how and efficient management is more important than that of pioneering effort. The system of individual control has to give way to institutional and professional management.

(iii) Concentration of industrial power in a few family groups is leading to pre-emption of new sanctions and bank credit by big industrial families, resulting in a denial of fair opportunities to the late comers. Distributive justice apart, economic growth itself is likely to suffer through lack of adequate competition.

(iv) A determined effort has to be made to spread industrialisation to East Pakistan and to the less developed provinces of West Pakistan. Concentrations of industrial wealth in a few hands and in a few centres are incompatible with this effort.

(v) The problem is still manageable. The industrial sector is only 12 per cent of the Gross National Product at present. It may grow to over 25 per cent in another decade. It is still possible to tackle this problem effectively as in our economic system, big industrial families are largely dependent on Government patronage, making their high profits on the strength of Government licences, sanction and credit.

18. The Government is already committed to a policy of broadening the ownership of industry. Several steps have already been taken to encourage public share floatations and broad-based ownership of industrial undertakings. An anti-monopoly legislation was promulgated in the final year of the Third Plan. However, a fundamental reform is still to be carried out. The basic idea of a long-term reform should be to let the established industrialists play their legitimate role in managing new sophisticated ventures, in introducing new technology, in undertaking new research and in making their profits through free competition, while keeping the door open for new entrepreneurs. The profits of privilege should be replaced by profits of creative enterprise. Some aspects of the new strategy towards private enterprise are discussed in Chapter 6.

19. A number of specific policies can be considered in devising a comprehensive framework to deal with the problem of concentration of industrial incomes and wealth:

(i) Policy regarding regulation of credit institutions including commercial banks should aim at ensuring that potential borrowers are not [illegible]

position to decide the allocation of loanable funds. The unlimited access of the big industrial family groups to the banking system should be curtailed. If the present attempts to increase the share of small borrowers do not prove successful, an upper ceiling may have to be placed on the advances that any one particular industrial group can obtain from the banking system.

(ii) Fiscal policy should be used effectively to limit concentrations of industrial income and wealth in a few hands. At present, the Government is sacrificing substantial revenue on account of the concessions it has given to industry for investment, production and export. The government is realizing only 2 per cent of GNP in direct taxes which compares with an average of 6 per cent for the developing countries and 17 per cent for the developed countries. This shows that the upper income groups are bearing a very low tax burden in Pakistan by international standards. This must undergo a fundamental change. As mentioned already a Taxation Commission is being set up to recommend concrete policies in this sphere.

(iii) Newcomers should be encouraged to undertake industrial ventures and be given all the necessary facilities such as grant of fiscal concessions, reservation of simpler consumer goods industries, greater encouragement by PICIC and IDBP to the new industrialists and larger accommodation for them in the credit and import policies.

Nationalisation of Industries

20. Recently the question of nationalisation of industries has received increasing attention. This has probably been prompted by the widespread resentment with the concentration of industrial incomes and wealth and with the current abuses of the capitalistic system. The question of nationalisation cannot be divorced from the political framework that the country ultimately chooses for itself. It is not purely an economic question nor can it be judged by economic criteria alone. In fact, purely economic considerations would make one pause before a wholesale nationalisation of industries is attempted. In the last 20 years, mostly consumer goods industries have been developed in the country. These industries are not very large in size, and if past experience is any guide they may be difficult to operate efficiently in the public sector. There will be little national gain if the profitability of private industries is replaced by the inefficiency of public management. It will be a much better policy to tax away a major part of the profits of these industries and to utilize them for public services. But the ownership of industries in the new political framework may not be judged entirely on grounds of efficiency and profitability so that the question of nationalisation of existing industries must be left as an open issue at this stage.

21. A more pertinent issue is the future pattern of industrialisation in the country. As we enter a more sophisticated stage of industrial development, we are likely to set up fairly big industries with sizeable capital and sophisticated technology and with a major impact on the rest of the economy. The installation and management of some of these basic industries cannot be left to the private sector. A new industrial policy must be devised which spells out clearly which industries are reserved for the public sector, which can be developed both by public and private sectors either in association or in competition, and which industries the private sector can develop exclusively without the threat of public intervention. The present industrial policy offers only a negative list of industries, prohibiting a few industries, like ordnance factories, for the private sector while leaving the decision regarding the majority of industries to be taken

on the merits of each case. The time has come to replace this negative list of industries with a positive list which defines the three categories of industries for operation by the public sector, public/private sector and private sector. Such a list will remove doubts about the legitimate role that the private sector can play in the future industrialisation of the country by settling the question of public and private ownership of industries.

22. It is already clear that the public sector will have to play an increasingly larger role in the setting up of industries in the Fourth Plan period and beyond. The public sector has so far been responsible for about one third of the total industrial investment. This proportion will increase in future because of the complex nature of industries, the demands for regional development and the climate of public opinion. It is urgent, therefore, that tradition of efficiency should be built into the public sector so that it can perform its due role in future industrialisation.

23. The major pre-requisite for introducing efficiency in public sector industries is to make them accountable to the legislature and responsive to the needs of the general public. The Public Corporations should be allowed the necessary flexibility in their recruitment of staff, fixation of salaries, pricing of output and in other related matters so that public enterprises can be run on commerical lines. A corps of professional managers must also be developed on which the public sector can draw upon to operate its industries.

Nationalisation of Banks

24. The credit policy of the commercial banks has been dominated by certain well known industrial houses, thus accentuating the problem of concentration of industrial incomes and wealth. The commercial banks have done very little to encourage small investors or various professional groups. Statistical evidence convincingly demonstrates that advances are heavily concentrated in a small number of accounts and a few cities. A better distribution of credit to various income groups and various geographical regions demands greater intervention of the public sector to regulate credit policy in line with national priorities.

25. The choices open to the Government range from outright nationalisation of banks, to a majority control of the shares of the major commercial banks, to a stricter regulation of credit policies and priorities. A choice between these alternatives should be made only after carefully debating the implications of each alternative.

New Rules of the Game

26. In order to tackle the fundamental issues in the economic and social spheres, some of which are discussed above, the Government must evolve an integrated programme aimed at providing social justice, eliminating the abuses of the present economic system and mobilising the resources required for welfare and development. Such a programme must be defined not only to restore the momentum of the economy but to eliminate the abuses which led to a near revolution in the country and to establish a sound basis of future relations between the Government and the business community on the one hand and among the employer, the labour and the consumer on the other.

27. This programme should define new rules of the game in the private sector which, while reserving a viable role for private enterprise in a mixed

system, establishes the ascendency of the Government in the economic sphere, decreases the concentration of private wealth and economic power, encourages fair competition within the private sector, ensures greater opportunity for new comers, provides equitable treatment to workers and consumers alike and seeks from the business community resources for social purposes commensurate with their ability to pay and the large benefits received by them in the past. The private sector must recognize and accept that, in the changed circumstances, the Government has to assume a larger role in economic activity, particularly in the social sectors. The extent to which the Government will have to assume this role depends largely on how far the private sector discharges its social responsibilities.

28. The Government has already taken certain steps to check the excesses of private enterprise. For example, an anti-monopoly law has been promulgated to ensure that there is no collusion between various industrial units to increase prices, and to widen the base of industrial ownership and to promote greater competition and efficiency in the economic system. Similarly, a Securities and Exchange Ordinance has been enacted to create healthy conditions in the development of the stock market. The entire range of fiscal concessions will have to be reviewed to reduce excessive protection to industry and to ensure a fair deal to the consumer. Further steps will be necessary to reform the existing system and to make it conform to national interests and aspirations.

29. These are some of the elements which must be considered in devising a new development strategy for the 1970s. In the last analysis, economic planning is an integral part of the political and social system and must draw its inspiration and its objectives from it. With the revival of political life, it is imperative that the new development strategy should be conceived and implemented within the new political and social framework.

CHAPTER 3

SIZE, STRUCTURE AND TARGETS

The principal objectives of the Plan were spelt out clearly in the document entitled Socio-Economic Objectives of the Fourth Five Year Plan which was approved by the National Economic Council in November 1968. These were:—

(a) to maintain the tempo of development in the country through a determined effort to secure the maximum and most efficient utilization of our material and human resources;

(b) to reduce inter-regional and intra-regional disparity in *per capita* income;

(c) to make the economy increasingly self-reliant in most essential fields;

(d) to move towards a viable synthesis between the claims of economic growth and social justice through the pursuit of pragmatic policies; and

(e) to direct the forces of economic and social change towards the establishment of a just society.

2. As was pointed out at the time of presentation of the Socio-Economic Objectives to the nation, it is not possible to achieve all these objectives simultaneously in view of our limited resources. "There will be times when the nation will have to make a conscious choice between various objectives. For instance, it is possible to accelerate growth rate well beyond the 5.5 per cent per annum already achieved but it may be difficult to do so while replacing foreign assistance within a short period, carrying an inescapable defence burden, reducing regional disparity and distributing incomes more equitably. The nation may well have to accept a less ambitious growth target for the Fourth Plan in order to combine it with other social and economic objectives which have become increasingly important and which cannot all be achieved simultaneously alongwith the relentless pursuit of economic growth". In spelling out these objectives, the Planning Commission also analysed the underlying economic and social trends in the country and anticipated many of the developments which were to take place later. These objectives, alongwith the qualifications stated above, still remain valid and lend a perspective and meaning to the specific targets suggested for the Fourth Plan.

3. The following specific targets are proposed for the Fourth Plan:

(i) to attain an annual growth rate of at least 6.5 per cent in the Gross National Product which would permit the average *per capita* income to increase from Rs. 567 in 1969-70 to at least Rs. 675 in 1974-75;

(ii) to reduce the disparity in *per capita* income between various regions at the fastest possible rate;

(iii) to increase *per capita* consumption of foodgrains from 15.5 to 16.8 ounces per day by increasing rice production by 5.7 million tons, wheat production by 2.6 million tons and total foodgrains production by 8.5 million tons.

(iv) to ensure major increases in other items of essential consumption through a specific consumption plan: for instance, an increase in *per capita* consumption of 24% in cotton textiles, 23% in sugar and 20% in edible oils;

(v) to reduce the extent of unemployment and underemployment in the country by providing 7.5 million new job opportunities compared to 6.5 million new entrants to the labour force;

(vi) to move towards a more equitable distribution of income and wealth by limiting the concentration of industrial wealth, by increased taxation of upper income groups, by fixing of minimum wages and salaries, by narrowing down the present differentials in the salary structure, by greater emphasis on social security schemes and through the provision of more equal opportunities in the economic and social fields;

(vii) to evolve an income and price policy through which the increase in *per capita* income is protected from price erosion;

(viii) to increase exports at least at an annual rate of 8.5 per cent;

(ix) to improve Pakistan's domestic contribution towards financing of the total development expenditure by saving and re-investing one-fifth of the additional income generated during the Plan period;

(x) to reduce the country's dependence on foreign assistance: net foreign assistance is expected to finance only 21% of the total development expenditure for the Plan period as a whole and 16% in 1974-75;

(xi) to move towards greater self-reliance by developing capital goods and defence-oriented industries and by securing major increases in the production of industrial machinery, transport equipment and intermediate products; additional production of 660 thousand tons of steel, 1.2 million nutrient tons of fertilizer, four million tons of cement, 280,000 million cubic feet of natural gas and Rs. 1,100 million worth of transport equipment and industrial machinery;

(xii) to increase the generation capacity of power by 1,740 m.w., to provide irrigation water to over 5 million additional acres of new area to extend electrification to at least 1,150 additional villages;

(xiii) to undertake a major flood control programme in East Pakistan outside the Fourth Plan;

(xiv) to make sizeable investment in improving communication facilities between the two wings of Pakistan; to link the two wings of the country by a space satellite system; and to increase the number of telephones in the country by 190,000;

(xv) to increase the TV coverage in the country to 90% of the population and to introduce educational TV including programmes for the farmers;

(xvi) to mobilise the maximum possible financial, human and administrative effort for a decisive change in the education system: by increasing the outlay on education to 2½ times the level of the Third Plan and by increasing enrolment in primary schools by 5 million, in secondary schools by 1 million and in institutes for technical education by 280 per cent; to move towards universal enrolment up to Class V by 1980 and to improve the percentage of literacy in the country from 18% in 1969-70 to 28% in 1974-75 and to at least 42% by the end of the decade;

(xvii) to protect the entire population from malaria and small-pox and bring about a major improvement in curative health facilities by

providing 25,000 additional hospital beds and the matching requirements of equipment and medical personnel;

(xviii) to intensify and expand the programme of family planning so as to prevent 9.6 million births during the Fourth Plan period and to reduce the birth rate from 45 per thousand in 1969-70 to 40 per thousand in 1974-75;

(xix) to construct about half a million housing units for low income groups while restricting the construction of luxury housing; and

(xx) to launch an Urban Works Programme to improve the environmental conditions in big cities and to cater to the community needs of the neglected areas.

Growth and Production Targets

4. The overall growth target of 6.5 per cent for the Fourth Plan has been selected on the basis of past experience, future requirements, growth potential of various sectors and regions and the feasible level of investment to realize this growth potential. A sustained growth rate of 5.5 per cent has been achieved during the 1960's. The Perspective Plan (1965—85) would have required a growth rate of 7.2 per cent per annum to double *per capita* income over a period of 20 years. Thus, from the point of view of requirements, a growth rate higher than 6.5 per cent should have been selected for a major improvement in living standards, especially as the population is increasing at around 3 per cent per annum and would eat away a substantial part of future growth. It would have been possible to manage a higher growth rate than is being proposed in the Fourth Plan if resources were concentrated in fast growing sectors and regions irrespective of considerations of regional development, if more adequate provision was not made for the needs of the social sectors and if the financial resources were not a serious constraint on economic development. After a careful and realistic assessment of all these limitations, it has been concluded that a growth rate of 6.5 per cent is the maximum that the country can hope to achieve during the Fourth Plan period consistent with its other objectives.

5. The growth strategy of the Fourth Plan will lean heavily on the agriculture sector as was also the experience in the Third Plan (*see* Table 1). The growth rate of 5.7 per cent achieved in the Third Plan was backed by a growth rate of 4.5 per cent in the largest sector of the economy, namely agriculture. The Fourth Plan strategy also envisages a growth rate of 5.5 per cent in agriculture without which the overall growth rate is not likely to be reached. Such a growth strategy is consistent both with the potential of the agriculture sector and with the demands of social justice since agriculture sustains 85 per cent of the total population and a fast rate of growth in this sector has the largest impact on living standards. The successful implementation of this strategy also demands continuous research on new seeds, rapid increase in the use of fertilizer, pesticide and irrigation water, extension of new agricultural techonology to small farmers and a framework of powerful incentives for accelerated agricultural growth.

TABLE 1

Sectoral and Regional Growth Rates

	Third Plan (1959-60 prices)	Fourth Plan (1969-70 prices)
Agriculture	4.5	5.5
Manufacturing	6.8	9.3
(Large scale)	(8.6)	(10.5)
(Small scale)	(2.6)	(12.5)
Others	6.9	6.9
GNP	5.7	6.5
East Pakistan	4.1	6.5
West Pakistan	6.3	6.5

6. It is presently contemplated that West Pakistan should aim at a growth rate of 5.5 per cent while East Pakistan should be enabled to accelerate its growth rate to 7.5 per cent during the Fourth Plan period. West Pakistan has maintained a growth rate of a little over 6 per cent during the 1960's. Maintenance of this growth rate in the Fourth Plan, therefore, would not have posed many problems for West Pakistan but for the constraints which should be taken into account at the present stage of its development. Firstly, the technological break-through in agriculture in the Third Plan increased West Pakistan's agricultural growth rate to nearly 6 per cent per annum which is not likely to be repeated in the next Plan period. Secondly, the urgent need to transfer resources to East Pakistan and the consequential limited acceleration in the development expenditure of West Pakistan are likely to frustrate some of its growth potential. In particular, West Pakistan will have the problem of continuing its growth rate with a substantial decline in the net transfer of resources to it from abroad. Thirdly, more financial resources have to be allocated to the neglected social sectors of education, health and housing, thereby limiting resource availability to the immediately productive sectors. Fourthly, the requirements of less developed provinces in West Pakistan have to be met on a priority basis, particularly in respect of the infra-structure facilities that these provisions require for accelerated development.

7. In East Pakistan, a growth rate of a little over 4 per cent has been achieved during the 1960s. To accelerate this growth rate to 7.5 per cent in the Fourth Plan will require a tremendous effort. The attainment of such a target will depend crucially on the growth rate that is achieved in the agriculture sector which constitutes 55 per cent of the total provincial product. A growth rate of about 6 per cent must be achieved in agriculture to realize the overall growth target. This would require an increase in rice production by over 4 million tons and in jute production by about 2 million bales. The prospect of a new variety of IRRI rice, which can thrive in monsoonic conditions, becoming available commercially by 1971 considerably brightens the outlook for agricultural growth in East Pakistan. However, a lot will depend on the programmes of fertilizer and controlled irrigation and extension of new agricultural technology to small holdings of East Pakistan if the growth rate in agriculture is to be realized. In fact, the efficiency of the public sector and the framework of its development and administrative organisations will largely decide the growth prospects of East Pakistan in the Fourth Plan period.

8. Detailed production targets have been spelt out in each sector to realize the overall and regional growth targets (*see* Annexure A). These have been based on a careful assessment of the production possibilities in each sector and the domestic consumption and export requirements of the country. The detailed investment programme has been geared to achieve these production targets and is given in Annexure B.

Size of the Fourth Plan

9. The size of the Fourth Five-Year Plan has been determined after a careful review of the following factors:

(i) minimum necessary requirements for the investment programme in the public and private sectors to attain the desired objective of growth and production;

(ii) the urgent requirement of social programmes and services;

(iii) the economic and political compulsions for a visible and early improvement in living standards, and an equitable distribution of economic benefits to various regions and provinces through a more balanced development effort.

(iv) the likely availability of domestic resources without imposing intolerable sacrifices and hardships;

(v) expectations regarding the future availability of foreign assistance.

10. Taking into consideration all these factors, it should be possible to finance a total development expenditure of Rs. 75,000 million during the Fourth Plan period. This Plan size is being proposed after a careful review of both national requirements and national resources. From the point of view of requirements, it is a fairly *modest* Plan size as:

(i) it will lead to an annual increase of 6.5 per cent in the Gross National Product which is less than the growth rate of 7.2 envisaged in the Perspective Plan (1965—85). Thus, the objective of doubling *per capita* income over two decades will have to be moderated in view of the performance of the Third Plan and the targets now being fixed for the Fourth Plan;

(ii) it will lead to an increase in *per capita* consumption of only 3.2 per cent per annum or by Rs. 7 per month per person over the next five year period;

(iii) it will not be able to accommodate all the demands for development in the less developed regions;

(iv) it will raise the ratio of gross investment to GNP to 15.5 per cent cent by 1974-75 which is lower than the level actually prevailing ten years earlier in 1964-65. Without such an improvement in the investment ratio, the achievement of the growth of 6.5 per cent in the Fourth Plan and beyond will be seriously threatened;

(v) it will be only 60 per cent larger than the implemented Third Plan in terms of present prices and probably less in real terms, after allowing for some price increase over the Fourth Plan period. This limited increase in the size of development expenditure has made it difficult to accommodate urgent demands for high priority programmes from various sectors;

(vi) the total demands for financial allocations from various sectors of the economy already exceed the level of Rs. 75,000 million and would have required a Plan size of somewhere around Rs. 80,000 million.

11. While the requirements dictate a higher size of the Plan than presently envisaged, the nation has also to review carefully the resources that it is willing to mobilise domestically and the foreign assistance that it can reasonably expect from abroad. Considering the resource position, the proposed Plan size of Rs. 75,000 million will appear to be a fairly ambitious target:

(i) The financing of such a Plan would require that 20 per cent of the additional income is saved and re-invested as against the actual experience of less than 10 per cent marginal rate of saving in the Third Plan and about 20 per cent in the Second Plan.

(ii) The financing of the public sector programme would require a substantial additional resource mobilization effort and a great deal of discipline regarding the non-development expenditure of the Government.

(iii) The Fourth Plan is based on a total availability of Rs. 22,000 million of foreign assistance. This compares with a total gross inflow of around Rs. 16,000 million in the Third Plan.

12. The suggested Plan size of Rs. 75,000 million, therefore, balances the urgency of national requirements with the limitation of national resources.

Size of the Public and Private Sectors

13. The relative size of the public and private sectors in the past has been a pragmatic decision dictated by the relative efficiency of the two sectors and the merits of each particular situation. The future pattern of public and private sectors is dictated by certain recent compulsions for an increase in the role of the public sector in the Fourth Plan.

(i) There has been wide-spread criticism of increasing concentrations in the industrial sector and there is a general demand for a greater presence of the Government in the affairs of the private sector.

(ii) The accelerated development of East Pakistan and of the less developed provinces of West Pakistan will require a greater role of the public sector.

(iii) Since the requirements of social sectors like education, health and housing have been relatively neglected in past development, the Government has to undertake higher expenditure for these sectors in the Fourth Plan.

(iv) At the present stage of development, even sectors like agriculture and industry, where private investment is traditionally more active, require greater intervention by the public sector. In industry, the major expansion is likely to be in capital goods where the public sector will have to undertake greater responsibility both for installation and operation of such industries. In agriculture, the first phase of technological break-through has been confined to large farms, mainly through private initiative, and its extension to the smaller farms would require a greater role for the public sector.

14. In view of all these considerations the public sector has been allocated 65 per cent of the total development expenditure. The proposed allocation in the Fourth Plan and the actual experience of the preceding three Plans are compared in Table 2 below:—

TABLE 2

Relative Role of Public and Private Sectors

Plan Period	Public Sector		Private Sector	
	Expenditure (Rs. Million)	% of total	Expenditure (Rs. Million)	% of total
First Plan (1955—60)	6,930	65	3,660	35
Second Plan (1960—65)	17,500	56	13,700	44
Third Plan (1965—70)*	25,000	54	21,500	46
Fourth Plan (1970—75)	49,000	65	26,000	35

*This is the expected expenditure after deducting possible shortfalls from the sectoral evaluations given in Tables 5 and 6.

Regional and Provincial Allocation

15. The regional distribution of allocations in the Fourth Plan has involved many difficult and complex decisions. The sharing of national resources for development is not only interwoven with impending decisions on the precise shape of regional-autonomy, the pattern of federal financing and the future framework of planning at national and provincial levels, but is also the most important single indicator of the Plan's success in redressing the regional imbalances in the past. After carefully considering these limitations and compulsions in the light of the report of the Panel of Economists; the Plan has proposed the following pattern of allocations for the Fourth Plan period.

TABLE 3

Regional Allocations in the Fourth Plan

(Rs. Million)

	Total	East Pakistan	West Pakistan
A. Plan Alocation :			
Public Sector	44,500	27,900	16,600
Private Sector	26,000	10,000	16,000
	70,500	37,900	32,600
B. Outside the Plan :			
Flood Control	1,500	1,500	—
Indus Basin	3,000	—	3,000
	4,500	1,500	3,000
C. Total Development Programme :			
Public Sector	49,000	29,400	19,600
Private Sector	26,000	10,000	16,000
	75,000	39,400	35,600

16. These allocations while providing for a minimum necessary acceleration in West Pakistan to meet the needs of less developed areas of West Pakistan and to permit larger social programmes, provide for the maximum feasible acceleration in East Pakistan. This is clear from the following features:

(i) The share of East Pakistan in total development expenditure will rise from 36 per cent in the implemented Third Plan to 52.5 per cent in the Fourth Plan, implying an edge of Rs. 3,800 million in the public and private sectors taken together. In the final year of the Plan, total development expenditure in East Pakistan will exceed 55%.

(ii) The development expenditure in East Pakistan in the public sector will increase from Rs. 11,300 million in the Third Plan to Rs. 29,400 million in the Fourth Plan which is an increase of 160% (see table 4). This compares with an increase of only 43% in West Pakistan. This will mean that East Pakistan will have an edge

of Rs. 9,800 million in the public sector over the four provinces of West Pakistan and an overall share of 60 per cent. During the Third Plan, East Pakistan implemented a development programme of Rs. 11,300 million in the public sector which was Rs. 2,400 million less than that spent in West Pakistan (including Indus Basin expenditure).

(iii) The annual acceleration in the total development expenditure in East Pakistan during the Fourth Plan will be 19.1 per cent compared to 3.7 per cent in West Pakistan.

(iv) The proposed allocations imply a substantial transfer of resources to East Pakistan during the Fourth Plan both from abroad and from West Pakistan.

TABLE 4

Regional Development Expenditure

A—By Plan Period

(Rs. Million)

	II Plan		III Plan		IV Plan	
	East Pakistan	West Pakistan	East Pakistan	West Pakistan	East Pakistan	West Pakistan
Public Sector*	6,700	10,800	11,300	13,700	29,400	19,600
Private Sector	3,000	10,700	5,500	16,000	10,000	16,000
Total ..	9,700	21,500	16,800	29,700	39,400	35,600
% distribution	31	69	36	64	53	47

B—By Selected Years

	1964-65		1969-70		1974-75	
	East Pakistan	West Pakistan	East Pakistan	West Pakistan	East Pakistan	West Pakistan
Public sector*	1,870	3,020	2,800	3,400	7,000	4,500
Private sector	950	3,200	1,200	3,100	2,600	3,300
Total ..	2,820	6,220	4,000	6,500	9,600	7,800
% distribution	31	69	38	62	55	45

C—Annual Acceleration (%)

	1960—65		1965—70		1970—75	
	East Pakistan	West Pakistan	East Pakistan	West Pakistan	East Pakistan	West Pakistan
Public Sector*	20.5	21.5	8.4	2.4	20.2	5.8
Private Sector	43.0	33.5	4.8	—	16.7	1.3
Total ..	25.6	27.0	7.2	0.9	19.1	3.7

*Including expenditure on Indus Basin works in West Pakistan.

Public Sector Allocations

18. The allocations in the public sector by each sector of economic activity are shown in Table 5 below. These allocations have been compared with the actual experience in the Third Plan to bring out the shifts in priorities which are contemplated in the Fourth Plan.

TABLE 5

Public Sector Allocations in the Fourth Plan

(Rs. Million)

Sector	Third Plan (estimated actual)	Fourth Plan (allocations)	Percentage Increase
Agriculture	2,811	6,695	138
Industry	2,331	4,418	95
Fuels & Minerals	573	577	1
Water	6,506	10,125	56
Power	3,607	5,840	62
Transport & Communications	4,312	7,905	83
Physical Planning & Housing	1,638	3,795	132
Education	1,307	3,665	180
Health	638	2,445	283
Family Planning	365	695	90
Social Welfare	51	210	312
Manpower	48	140	192
Public Administration	23	40	74
Works Programme	1,136	2,450	116
Total	25,346	49,000	93

19. The major shift in the sectoral strategy of the Fourth Plan is the increased emphasis placed on the requirements of the social sectors. This is brought out in Table 6 below.

TABLE 6

Share of Social and Other Sectors

	Third Plan (estimated actual)		Fourth Plan (allocations)		Increase in Fourth Plan over Third Plan
	Rs. million	% of total	Rs. million	% of total	Percentage
Social services (a)	5,206	20	13,440	27	158
Physical infrastructure (b)	14,425	57	23,870	49	65
Production programmes (c)	5,715	23	11,690	24	105
Total	25,346	100	49,000	100	93

(a) includes education, health, housing, social welfare, manpower, family planning and works programme.
(b) includes water and power and transport and communications.
(c) includes agriculture, industry and fuels and minerals.

It is proposed to increase development expenditure on social sectors by 158 per cent compared to the overall increase of 93 per cent in the level of public sector development expenditure. As a result, the share of social sectors in total development expenditure will increase from about 20 per cent during the Third Plan to over 27 per cent in the Fourth Plan. Increased development expenditure provides only a partial measure of the expansion in social services since a large increase is planned in recurring expenditure in the form of higher salaries and personnel for these sectors.

20. It has also been decided to establish a Special Fund outside the framework of the Fourth Plan to finance the Flood Control Programme in East Pakistan. The World Bank team is presently conducting a major survey of the water resources of East Pakistan and it is expected that a viable flood protection programme will emerge as a result of this survey. The Government proposes to ask friendly countries to contribute towards a Special Fund for financing the needs of such a programme.

21. The pattern of sectoral allocations proposed in the Fourth Plan and the experience of the three preceding Plans is summarized in Table 7 below:—

TABLE 7

Pattern of Public Sector Outlays/Allocations for the Four Plans

(per cent of total outlay)

Sector	I Plan (actual)	II Plan (actual)	III Plan (estimated actual)	IV Plan (allocation)
Agriculture	11.6	10.6	11.1	13.7
Industry	14.8	7.5	9.2	9.0
Fuels & Minerals	2.4	1.8	2.3	1.2
Water	19.8	31.3	25.7	20.7
Power	10.7	10.1	14.2	11.9
Transport & Communications	23.0	17.6	17.0	16.1
Physical Planning & Housing	10.0	9.5	6.5	7.7
Education*	5.5	5.2	5.2	7.6
Health	2.1	2.2	2.5	5.0
Family Planning	—	0.1	1.4	1.4
Social Welfare		0.2	0.2	0.4
Manpower	0.1	0.2	0.2	0.3
Works Programme	—	3.7	4.5	5.0
Total	100.0	100.0	100.0	100.0

* Including Public Administration.

Private Sector Allocations

22. The allocations in the private sector are essentially indicative and notional. With the exception of large-scale manufacturing sector, Government exercises little direct control over the extent or direction of private investment. However, Government does influence private investment decisions through its economic and financial policies. The sectoral allocations presented in Table 8 below represent a blend of investment which can be expected to take place from a forecast of historical trends as well as the pattern which is regarded as desirable to achieve balanced growth. These allocations should not be interpreted as upper limits of permissible development. Rather, they are designed to secure the minimum essential growth in various sectors.

TABLE 8

Private Investment in the Fourth Plan by Sectors

(Rs. Million)

Sector	1969-70	1974-75	Total Fourth Plan (1970-75)	Percentage Growth per annum
Agriculture	550	800	3,400	7·8
Manufacturing, Mining and Quarrying	1,850	2,350	11,000	4.9
Construction, Electricity & Gas	250	350	1,500	7.0
Transport and Communications	500	900	3,500	12·5
Dwellings	700	900	4,000	5.2
Other Services	450	600	2,600	6.0
Total	4,300	5,900	26,000	6·5

23. Private investment has been fairly sluggish and depressed throughout the Third Plan period. It increased at a rate of less than 1 per cent per annum in current prices which means that there has been, in fact, a decline in private investment in real terms. It also appears that in no single year during the Third Plan period the level reached that obtaining in 1964-65. However, the exceptional circumstances which led to stagnation of private investment in the Third Plan period are not likely to recur during the Fourth Plan. Private investment in certain sectors, like consumer goods industries, was deliberately discouraged in the Third Plan. On the other hand, the profitability of new priority industries was not fully established. Policies are being initiated to remove fiscal and other anamolies hindering the progress of capital goods industries. At the same time, expansion of consumer goods industries will be encouraged, particularly in East Pakistan. A policy package to stimulate private investment in the Fourth Plan period is discussed in Chapter 6.

Employment Target

24. In the past, the labour force has grown more rapidly than the economy has been able to absorb productively. The surplus takes the form of under employment rather than unemployment. This means that although almost the entire labour force is somehow employed, the total amount of work done, measured in man years, is far below what it is able and willing to do. In 1964-65, unemployment was estimated at 7.5 million man years, or about 20 per cent of the total labour force. It is estimated that the Third Plan would have created enough job opportunities to match the increase in labour force but not to make any impression on the backlog of unemployment. It will be one of the primary objectives of the Fourth Plan to create more job opportunities than the increase in labour force so as to reduce the backlog of unemployment by at least one million. In order to implement this target, employment considerations will be given equal importance with the increase in production rather than regarded as secondary to the objective of economic growth. This new priority of the employment objective will be reflected in the emphasis on employment-creating sectors and in the choice of labour intensive technology.

25. The detailed employment targets of the Fourth Plan are still being worked out but some provisional estimates are given in Table 9 below. As shown in the table, the total employment opportunities are expected to increase by 7.5 million in the Fourth Plan period against an increase of 6.5 million in the labour force. A major part of this increase (3.5 million man years) is likely to be created in the agriculture sector. This will be facilitated by the rapid extension of new agricultural technology both in East and West Pakistan. The new varieties of seed, both Mexi-Pak wheat and IRRI rice, require considerably higher labour inputs than the indigenous varieties. Besides the substantial increase in agricultural employment, Fourth Plan will seek to introduce concrete policies in industry and housing sectors to encourage greater use of labour in preference to machinery.

TABLE 9

Employment Target of the Fourth Plan

(Million persons)

Sector	1964-65 (estimated)	1969-70 (estimated)	1974-75 (estimated)
1. Labour force	36.7	43.2	50.7
2. Employed and underemployed	36.3	41.8	49.2
(*i*) Agriculture	26.8	30.1	33.6
(*ii*) Manufacturing	3.2	3.9	4.8
(*iii*) Other	6.3	7.8	10.8
3. Wholly unemployed	0.4	0.5	0.6
4. Unemployment (million man years)*	7.5	7.5	6.5
5. Unemployment as % of total labour force	20.4	17.7	13.5

* Including underemployed

Consumption Targets

26. The Government has prepared a tentative consumption plan to see that the basic consumption requirements of the common man are met during the Fourth Plan period. This is a major new undertaking and the work is still in progress. Only the first tentative conclusions are indicated in the Plan at this stage.

27. In so far as possible, the objective will be to ensure that the essential goods are provided to consumers at prices which are no higher, and in some cases are lower, than those prevailing in the base year, 1969-70. Most of these commodities are supplied by the private sector, not by the Government, but the Government can and will influence supplies and prices of these goods through its various policy instruments, investment scheduling, import licencing, changes in taxes and other such measures.

28. A detailed consumption plan requires working out the projection of demand of each individual commodity on the basis of the pattern of past consumption and income and price elasticities of demand. The demand so projected is then matched with the production, import and export programmes. Adjustments have to be made for seed, wastage and change in stocks. These balances have been worked for major items of consumption in Table 10. Details are given in Chapter 7.

TABLE 10

Selected Consumption Targets for the Fourth Plan

(Lbs. per capita)

Item	1969-70	1974-75	Percentage Increase
1. Wheat	123.48	133.57	8.2
2. Rice	207.56	235.17	13.3
3. Pulses (excluding gram)	7.31	8.13	11.2
4. Fats and oil	9.85	11.83	20.1
5. Milk	114.79	133.76	16.5
6. Meat	6.89	9.15	32.8
7. Fish	15.49	18.17	17.3
8. Vegetables (including potatoes)	79.40	92.30	16.2
9. Refined Sugar	10.26	12.60	22.8
10. Tea	0.54	0.65	20.4
11. Cotton Cloth (Yds.)	11.93	14.73	23.5

Annexure A

SELECTED PHYSICAL TARGETS FOR THE FOURTH FIVE-YEAR PLAN AND ACHIEVEMENTS AT THE END OF THE FIRST, SECOND AND THIRD PLANS

Sector/Item	Unit	Performance		Benchmark	Target
		1959-60	1964-65	1969-70	1974-75
Agriculture					
Wheat	000 tons	3,876	4,552	7,075	9,700
Rice	000 tons	9,461	11,666	13,843	19,500
Maize	000 tons	480	523	803	1,004
Other Food Grains	000 tons	702	855	745	766
Total Food Grains		14,519	17,596	22,466	30,970
Gram	000 tons	627	698	590	680
Pulses	000 tons	383	402	480	600
Sugarcane	000 tons	14,105	24,604	29,860	37,000
Potatoes	000 tons	373	566	1,100	1,700
Cotton seed	000 tons	580	748	1,056	1,510
Oil seeds (not Cotton)	000 tons	371	365	525	940
Other Vegetables	000 tons	1,244	1,361	3,590	4,640
Jute	000 bales	5,554	5,328	7,000	9,000
Cotton	000 bales	1,657	2,139	3,015	4,317
Tobacco	m. lbs.	198	242	390	515
Tea	m. lbs.	57	63	70	90
Manufacturing					
(i) Food Manufacturing :					
White sugar	000 tons	144	312	730	1,000
Vegetable Ghee	000 tons	30	90	160	300
Cigarettes	m. nos.	9,000	18,500	40,000	80,000
(ii) Textiles					
Cotton Yarn	m. lbs.	402	520	700	1,100
(iii) Jute Manufactures					
Hessian and sacking	000 tons	249	331	545	790
Broad-loom products	000 tons	—	10	55	210
(iv) Paper and Board					
Writing and printing paper	000 tons	27	47	61	200
Hard board	000 tons	14	27	64	150
Newsprint	000 tons	12	42	50	75

Sector/Item	Unit	Performance		Benchmark	Target
		1959-60	1964-65	1969-70	1974-75
(v) Non-metallic minerals					
Cement	000 tons	1,027	2,000	3,286	7,300
(vi) Basic Metals					
Steel	000 tons	—	—	90	750
(vii) Chemical Products					
Nitrogenous fertilizer (nutrient tons)	000 tons	9	118	195	1,425
Soda Ash	000 tons	27	28	70	200
Caustic soda*	000 tons	5	15	35	180
Sulphuric Acid*	000 tons	12	16	100	1,000
Petrochemicals	000 tons	—	—	10	170
(viii) Machinery etc.					
Transport Equipment	mill. Rs.	*N.A.*	*N.A.*	466	701
Machinery other than Electrical	mill. Rs.	*N.A.*	*N.A.*	297	874
Elec. Machinery	mill. Rs.	*N.A.*	*N.A.*	402	678
Mining**					
Iron Ore	000 tons	—	—	—	300
Fire clay	000 tons	16	7	25	50
Natural Gas	mill. cft.	25,750	62,896	130,000	410,000
Coal	000 tons	775	1,237	1,300	3,500
Rock salt	000 tons	138	217	356	500
Chromite	000 tons	15	15	60	80
Silica Sand	000 tons	28	26	180	300
Limestone	000 tons	1,013	1,968	5,000	10,000
Gypsum	000 tons	91	183	250	500
Crude Petroleum	mill imp. gln.	86	138	200	350
Marble	000 tons	—	—	15	30
Mica	000 tons	—	—	4	6
China Clay	000 tons	—	—	35	150
Sulpher	000 tons	—	—	4	20

*Includes captive capacity

**Production less than thousand tons not reported.

Sector/Item	Unit	Performance 1959-60	Performance 1964-65	Benchmark 1969-70	Target 1974-75
Water					
New area brought under irrigation*	mill. acres	1.08	2.05	6.85	5.25
Old area (additional)*	mill. acres	2.57	8.55	19.65	10.73
Power					
Installed Capacity	MW	882	1,435	2,593	4,331
Villages Electrified	(no. additional)	—	—	2,750	3,900
Transmission and Distribution lines (11 Kv and above)	miles	—	—	44,300	86,600
No. of Consumers	mill.	—	—	1.70	2.73
Transport and Communications					
(i) Railways					
Locomotives (Diesel)	no.	227	413	625	702
Locomotives (Steam)	no.	1,123	1,082	1046	913
Passenger Carriages & other coaching vehicles	no.	4,607	5,109	5,492	5,692
Wagons	no.	49,494	59,141	61,616	64,186
(ii) Road and Road Transport					
Buses	no.	N.A.	10,530	14,204	26,362
Trucks	no.	20,600	26,995	35,455	65,175
High type roads	miles	9,508	13,363	14,950	18,200
(iii) Shipping					
Ships	no	26	52	66	123
(iv) Communications					
Telephones	no.	73,262	129,000	202,000	392,500
Post offices	no.	10,261	11,800	14,300	17,300
Physical Planning and Housing					
Building and Housing Research Centres	per cent	—	2 centres (30%)	2 centres (60%)	2 centres (100% complete)
Public Health Engineering Laboratories and Institutes	no.	—	—	4	8
Outline Development Plans	no.	—	—	1	3
Urban Development Plans	no.	—	3	9	9
Regional Outline Plans	no.	—	—	1	10

*During Plan Periods

Sector/Item	Unit	Performance		Benchmark	Target
		1959-60	1964-65	1969-70	1974-75
Urban Residential Plots ..	no.	—	150,000	230,000	350,000
Water Supply, Drainage and Sewerage for urban areas ..	no.	—	23	56	60
Rural Water Supply :					
Tube-wells (East Pakistan)	no.	—	100,000	164,000	180,000
Villages (West Pakistan)	no.	—	103	473	500
EDUCATION					
School Education					
(i) Primary					
Primary Schools ..	no.	44,484	63,735	70,040	97,440
Improvement of Primary Schools	no.	—	9,100	20,771	46,121
Enrolment at Primary stage (Class I—V)	lacs	52.0	73.1	105.0	156.0
Enrolment as percentage of per cent primary age group ..		31	45	51	66
Primary teachers training institutions	no.	76	95	101	170
Annual output of Primary school teachers	no.	6,210	14,600	14,000	35,000
(ii) Middle/Junior High					
Middle/junior high schools	no.	3,288	4,428	5,080	7,300
Enrolment at middle/junior High Stage (Class VI—VIII).	lacs	7.0	11.6	19.4	29.4
(iii) High					
High Schools ...	no.	2,819	3,930	5,320	6,370
Enrolment at High stage (Class IX—X)	lacs	2.8	4.9	7.7	11.2
Training institutions for Secondary School teachers ..	no.	16	25	27	37
Annual output of Secondary School Teachers	no.	1,744	4,800	4,800	8,500

Sector/Item	Unit	Performance 1959-60	Performance 1964-65	Bench-mark 1969-70	Target 1974-75
(iv) Technical Education					
Vocational institutions ..	no.	—	32	75	280
Admission capacity to vocational institutions	no.	—	3,700	7,680	47,000
Annual output of Matric Tech.	no.	—	3,050	5,150	30,000
Polytechnics (including Swedish-Pak institutes) ..	no.	6	25	41	50
Admission capacity of technician courses in polytechnics ..	no.	1,249	3,704	7,400	15,000
Annual output of diploma level technicians	no.	630	1,644	3,800	8,000
(v) Engineering					
Engineering institutions (including Universities of Engineering and Technology) ..	no.	4	6	9	11
Admission capacity of graduate engineers	no.	592	1,603	2,280	3,300
Annual output of graduate engineers	no.	424	614	1,353	1,650
(vi) Universities					
Universities (General) ..	no.	6	6	8	13
Health and Medical Services					
Doctors	no.	9,200	15,600	21,452	26,327
Nurses	no.	2,000	3,600	5,400	13,040
Lady Health Visitors	no.	500	1,047	2,143	5,321
Hospital Beds	no.	28,000	35,500	39,023	63,500
Rural Health Centres, Sub-Centres and Health Units ..	no.	—	344	655	4,600
Medical College and Institutes..	no.	9	12	13	15
T. B. Clinics	no.	*N.A.*	*N.A.*	130	266

Sector/Item	Unit	Performance		Bench-mark	Target
		1959-60	1964-65	1969-70	1974-75
Social Welfare Services					
Community Development in Urban and Rural Areas ..	no.	16	81	163	240
Medical Social Work ..	no.	5	19	33	40
Social Services for Youth ..	no.	—	17	23	65
Social services and Model Institutions for the handicapped including beggars	no.	—	7	43	97
Social Services for Delinquents and Probationers ..	no.	—	11	21	39
Social Services for Children and Women	no.	—	3	19	70
Staff Welfare*	no.	—	—	20	30

* Included as a development activity from Third Plan onwards.

Annexure B

PUBLIC SECTOR DEVELOPMENT EXPENDITURE DURING THE FIRST, SECOND AND THIRD FIVE-YEAR PLANS AND ALLOCATIONS FOR THE FOURTH PLAN BY SECTORS

(SUMMARY POSITION)

(Rs. Million)

Name of the Sector	First Plan (1955—60)	Second Plan (1960—65)	Third Plan (1965—70) Estimate	Fourth Plan (1970—75) Allocations
1. Agriculture	806	1,856	2,811	6,695
2. Manufacturing	1,018	1,305	2,331	4,418
3. Mining	166	321	573	577
4. Water Development*	1,373	5,476	6,506	10,125
5. Power Development	742	1,775	3,607	5,840
6. Transport and Communications ..	1,599	3,072	4,312	7,905
7. Physical Planning and Housing	690	1,666	1,638	3,795
8. Education and Training	380	912	1,307	3,665
9. Health and Medical Services	146	381	638	2,445
10. Family Planning	—	19	365	695
11. Social Welfare Services	8	42	51	210
12. Manpower Training and Labour ..	1	34	48	140
13. Public Administration	—**	—**	23	40
14. Works Programme	—	650	1,136	2,450
Total ..	6,929	17,509	25,346	49,000

*Includes expenditure on Indus Basin Works and Flood Control Programme.

**Included in Education.

Appendix B

PUBLIC SECTOR DEVELOPMENTS EXPENDITURE DURING THE FIRST, SECOND AND THIRD FIVE-YEAR PLANS AND ALLOCATIONS FOR THE FOURTH
(Rs. Millions)

	First Plan	Second Plan	Third Plan	Fourth Plan
1. Agriculture				
2. Water and Power				
3. Industry and Minerals				
4. Transport and Communications				
5. Physical Planning and Housing				
6. Education and Training				
7. Health and Medical Services				
8. Social Welfare				
9. Manpower, Training and Labour				
10. Public Administration				
11. Other Programmes				
Total				

CHAPTER 4

RESOURCES FOR DEVELOPMENT

Starting from the lowest depths of poverty, where Pakistan would have to be placed in any international comparison of standards of living, any rate of progress is too slow. Despite the progress of last two decades, *per capita* income in Pakistan is around Rs. 567 per annum or one and half rupees per day. A doubling of *per capita* income would only bring us at par with countries like Algeria, Iran, Iraq and Jordan. A quadrupling would still leave us below the present level of incomes in many Latin American countries. But a doubling of *per capita* income at the current rate of progress would take almost 30 years. Any lowering of the growth rate would reduce the chances of a visible change in economic life within the life span of the present generation.

2. But every future increase in income demands investment of resources today. Ironically, a poor country which is in desperate need to invest for future improvements in standards of living is hard put to find resources for this purpose. Material resources are scarce by definition in a poor country and the margin available over and above the basic necessities of life is small. The nation is at every step forced to moderate its ambitions in the direction of rapid economic development as well as provision of social services in the light of the resource mobilization effort which can be undertaken.

3. It has to be realized that in a poor country like Pakistan, almost everything over and above the basic food, clothing and shelter is in the nature of a luxury. The definition of relatively rich has to be much wider than in other countries. Even a wage-earner, who is earning a little above the minimum wage, moves into the upper-third of the income distribution. A person with an income of Rs. 300 per month belongs to the top 20 per cent. If the nation is concerned about improving the condition of 80 per cent of the population living in unimaginable abyss of poverty, the net of resource mobilization would have to be spread quite wide. Austerity at all levels would have to become an article of faith for the nation. Of course, within the small class of relatively well-to-do, the more highly placed would have to bear a larger burden. But every one would have to share the cost. The task would not be easy but has to be undertaken in the interest of evolving a harmonious society and a viable economy.

4. Availability of foreign assistance makes the hard choices involved in resource allocation and resource mobilization easier. If a minimum rate of development is to be ensured simultaneouly with growth in public expenditure on social services and a meaningful improvement in the standards of living of the peasants and workers, domestic resource mobilization effort is bound to fall short of the requirements. Even if domestic savings of a very high order could be forced on the economy, it may prove impossible to convert domestic resources into foreign exchange with which to buy machinery, food and fertilizer or import skills from abroad. For this reason, most countries have found it necessary to depend on foreign assistance in the early stages of their development. This also ensures fair distribution of the cost of development between generations.

5. The Third Five-Year Plan succeeded in bringing about greater self-reliance in Pakistan's planning process. Preliminary evaluation shows that the net inflow of foreign resources at Rs. 12,740 million financed about 37 per cent

of total imports and payments during the Third Plan against 46 per cent in the Second Plan. Foreign resources financed 34 per cent of the Third Plan development expenditure as against 40 per cent in the Second Plan. As a proportion of GNP, net aid inflow declined from 5.7 per cent in 1964-65 to 3.1 per cent in 1969-70.

6. It has to be realized that, given any reasonable estimates of the availability of foreign assistance over the next Plan period, an increasing proportion of the finance needed to implement the Fourth Plan would have to come from domestic resources. To a certain extent, the reforms in taxation structure and tax administration as well as the institutional improvement in the capital market carried out during the Third Plan have laid down the basis for a sustained increase in resources available for investment programmes in line with the growth in the economy. However, as the estimates in the subsequent sections show, resources projected on the basis of existing taxation fall short of even the minimum requirements for the Fourth Plan. Further tax and resource mobilization effort would thus be necessary. The process of tax reform has to be continued until we reach a stage where the tax system automatically translates growth in the economy in terms of increased resources for future development. For the present, the major shift in fiscal policy would be to keep the consumption of upper income groups in check and make the resources thus released available for financing the new pattern of development in which social sectors have a high priority.

7. This chapter seeks to analyse (a) the resource mobilization effort already made during the Third Plan, (b) its impact on the resource base for the Fourth Plan, (c) the need for additional resource mobilization effort during the Fourth Plan and (d) suggested strategy for improving the domestic resource mobilization base. The magnitudes are first set in the broad perspective of aggregate growth in the economy and subsequently backed by detailed projections of individual taxes and broad categories of expenditures.

Saving and Investment

8. The Third Plan period witnessed a decline in the ratio of investment to GNP from 18.3 per cent in 1964-65 to 13.5 per cent in 1969-70. Gross fixed investment showed only a modest increase of 20 per cent in current prices over a period of 5 years. Expressed in constant prices of the base year, there was probably a decline in the level of gross investment. As the investment included a substantial element of depreciation and replacement, particularly in the Indus Basin Replacement Works and Railways, the net investment declined even more sharply.

9. The Fourth Plan must aim at reversing this process. Although the proposed plan size will enable an increase in the proportion of investment to GNP from 13.5 per cent in 1969-70 to 15.5 per cent in 1974-75, the Fourth Plan will end with a ratio below the Second Plan average and significantly lower than that attained in 1964-65.

10. The key element in realizing the investment target would be the achievement of a high marginal rate of saving. Net inflow of foreign resources is expected to decline from an estimated 3.1 per cent of GNP in 1969-70 to 2.6 per cent in 1974-75, mainly due to the phasing out of special Tarbela financing and rising burden of debt repayment. Marginal saving rate, therefore, has to be fairly high, if we seek to protect the rate of investment in the economy. Policies have to be devised with the objective of siphoning off a large proportion of incomes, expected to be generated in the Fourth Plan period, for investment.

TABLE 1

National Expenditure Account

(Rs. Million)

	1964-65	1969-70	1974-75
GNP at market prices	48,646	78,600	109,000
Imports on current account*	6,200	7,240	9,700
Total Resources ..	54,816	85,840	118,700
Fixed investment	8,080	9,700	15,700
Changes in stocks	810	900	1,200
Total investment	8,890	10,600	16,900
Government consumption	3,247	6,000	8,400
Private consumption	39,669	64,990	87,010
Exports	3,010	4,250	6,390
Total Uses ..	54,816	85,840	118,700
Gross savings	5,700	7,610	13,590
Net resource transfer from abroad*	3,190	2,990	3,310

* 'Imports on current account' include all payments except 'principal repayments' on account of debt servicing. 'Net resource transfer from abroad' represents the difference between 'imports on current account' and export earnings. This concept is used to determine savings rates. It differs from the concept of net foreign assistance, which simply deducts entire debt servicing from gross aid flows.

11. It is implicit in the proposed target for domestic resource mobilization that the marginal rate of saving would be roughly 20 per cent for the Fourth Plan period. This is higher than what was realized during the Third Plan period, though in line with the experience of the Second Plan. The marginal saving rate was less than 10 per cent during the Third Plan period and roughly 20 per cent during the Second Plan period. Both periods had certain unusual features. The circumstances were exceptionally favourable during the Second Plan. There was a sharp rise in the volume of aid flows and the concern with income distribution problems was not very strong. On the other hand, the Third Plan experienced a sharp decline in the ratio of foreign assistance to GNP with consequent adverse impact on domestic saving effort. Domestic resources had also to be diverted to larger defence effort.

TABLE 2

Savings and Investment—Third and Fourth Plans

(Percentages)

	1964-65	1969-70	1974-75	Third Plan Average	Fourth Plan Average
As a Percentage of GNP					
Gross investment	18.3	13.5	15.5	14.4	15.0
Net resource transfer from abroad ..	6.6	3.8	3.0	4.3	3.6
Domestic savings	11.7	9.7	12.5	10.1	11.4
Marginal rate of savings	—	—	—	7·5*	19·8
As a Percentage of Investment					
Domestic savings	64.1	71.8	80.4	70.0	76.0
Net external resources	35.9	28.2	19.6	30.0	24.0

* Least squares estimate, 1964-65 to 1968-69, based on current prices. There is evidence to indicate that in constant prices marginal saving rate was higher.

12. Though the conditions in the Fourth Plan would in some ways be more favourable for the saving effort than in the Third Plan, a 20 per cent marginal saving rate represents a fairly ambitious target. It implies that out of increases in *per capita* incomes roughly one-third would have to be saved and reinvested. In addition, the Government would be required to raise additional resources for increased public consumption for social services, indicating further restraint on private consumption. Given a large subsistence sector in the economy, and the nature of growth which would continue to depend largely on increased production of foodgrains, pressures for increase in consumption would be difficult to contain. Increasing concern for improving income distribution in the economy would require policies to be framed which would not rely unduly on the re-investment mechanism of big corporations. Larger direct taxation on high-income groups and policies to mobilize voluntary savings of the household sector would be the key elements of the new strategy.

13. A large part of the saving effort of the economy will have to be made by the Government. The Fourth Plan proposes an expansion in the role of the Government, seeking to raise its share in the Plan from 54 per cent to 60 per cent. This is necessary both to expand the level of social services and to make up for the deficiency of private sector investment in less developed parts of the country. Corresponding to this increased responsibility would be the need to generate public savings and mobilize private savings through various schemes. There is need to strengthen the tax-collection machinery and to improve the functioning of public enterprises. It would be necessary to widen the taxation base and to mobilize additional resources through increased taxation. The Plan proposals will result in only a marginal increase in the ratio of tax collection to GNP above the present low level of 9.4 per cent. This combined with continued efforts to keep the non-development expenditure (except on development departments) under check is expected to increase domestic resources for development in the public sector at an annual rate of 11.7 per cent. These estimates are elaborated in a subsequent section.

14. In the private sector, the marginal saving ratio is not expected to be very high. As explained in the chapter on private investment, the annual rate of acceleration in the level of private investment is assumed at 6.5 per cent, roughly in line with the income flows outside the subsistence sector. A major problem would be that our resource mobilization strategy is still not geared to the fact that a large part of the incomes would be generated in the agricultural sector. This was among the important reasons for a low marginal rate of saving in the Third Plan.

15. During the Fourth Plan, a considerable effort would have to be made to channel a larger portion of agricultural incomes into investment. Much larger availability of inputs is being planned to mobilize farm savings for investment within agriculture. Tubewells, pumps, agricultural implements etc. provide the obvious attractive items. Some degree of mechanization would also follow. Housing and road transport would also be able to attract savings from the relatively large farm-income earners.

16. Simultaneously, it will be necessary to forge stronger links between the rural savings and the urban organized capital and money markets. At present the major link is through postal saving schemes of the Government. Post Office saving bank is the only institution that has penetrated the rural areas. But it has failed to act as an aggressive mobilizer of rural savings. In recent years, banks have touched the periphery of real rural life by reaching the small mandi towns. Banks have been able to mobilize some deposits from these areas but have hardly broken the habit to keep the bulk of the savings in cash. A much larger effort would be needed by the saving institutions to tap the full saving potential of the growing agricultural income base.

17. The interest rate structure would play a major role in this effort. While the interest rates were kept relatively low (despite the recent increase to 8 or 9 per cent per annum) in urban areas, the unorganised money market in rural areas has been known to be functioning on much higher interest rates (ruling at 2 to 3 per cent per month). The efforts to divert rural savings away from the traditional uses would require further increases in yield pattern on savings.

18. In the urban areas, the response of the household savings to attractive investment outlets has been encouraging. The National Investment Trust, providing a steady return of about 10 per cent per annum, has been attracting considerably large investment demand. The ICP Investor Scheme, with more risk element and promise of a higher return, has proved equally attractive. By the end of the Third Plan, these two institutions were estimated to have contributed around Rs. 350 million to the capital market. The floatation of closed-end mutual funds has created a new popular investment medium, though so far on a limited scale. The mechanism of investment banking and mutual funds is likely to gain further strength during the Fourth Plan. PICIC is contemplating transferring its equity holding in various companies in the form of mutual funds to the small investors.

19. A major short-coming in the institutional framework for saving is the absence of saving-and-loan associations which have proved highly successful in other countries. It is being recommended elsewhere that the formation of such associations with a view to mobilizing savings for house-building purposes should be taken in hand early in the Fourth Plan. Some proposals are already under consideration in this regard. The incentive of obtaining a house building advance would be quite important in bringing forth savings from the [illegible] quite apart from the higher deposit rates that these associations may be able to pay.

20. Suitable dispersal of loans and credits could also act as a catalyst in mobilizing savings. Agricultural credit in the rural areas and house-building advances in urban areas can act as powerful mobilizer of matching funds from private sector. At a higher level, the availability of foreign credits channelled to the private sector through financial institutions, the equity fund, and the underwriting facility provided by the ICP would play the same role.

21. The saving and investment targets suggested in the Plan are quite consistent with a steady improvement in *per capita* consumption. If the growth rate postulated in the Plan is realized, it will allow an increase of 3.2 per cent per annum in *per capita* private consumption. This is indeed modest keeping in view the general poverty in the country and the urgent need to improve the standard of living. It may, however, be kept in view that roughly three quarters of the increase in GNP is being allocated for improvement in consumption. The main reason for the slow growth in private *per capita* consumption is a very high rate of population increase. Even if the marginal saving rate is kept low and a higher proportion of increase in production is earmarked for consumption, the corresponding improvement in living standards cannot be very high. A lower saving rate, on the other hand, through its impact on growth may mean even less increase in consumption.

22. The important thing is that within the available increase in resources allocated for consumption, a pattern is adopted which is primarily designed to meet the requirements of low-income groups. An equitable distribution of consumption resources is the real answer. This aspect of distribution is being built into the Fourth Plan by projecting growth in demand of the items of mass consumption and by making arrangements for adequate production or import. It is worth noting that a slow down in luxury consumption is implied by the large increase provided for the supply of basic consumer goods. These aspects of the Plan are discussed in a separate chapter.

Financing of the Government Sector

23. The public sector would require Rs. 49,000 million to finance its development programme, including Tarbela in West Pakistan and Flood Control in East Pakistan. The task of mobilising resources to mount a public sector programme of this size is going to pose a tremendous challenge as the country is carrying a heavy defence burden, the clamour for higher wages and salaries is increasing and the compulsion of many social and administrative needs cannot be postponed any longer.

24. Gross flow of foreign assistance to the public sector is expected to be of the order of Rs. 18,000 million. The availability of foreign resources in the public sector cannot be assumed to be a fixed element. Even from a pre-determined gross flow, which can at this stage only reflect a tentative judgement about the aid climate for the next five years, more can be given to the public or the private sector depending upon the role assigned to each. Changes are not likely to be large, however, because a major part of the aid in the pipeline is already earmarked. The availability of Rs. 18,000 million of foreign assistance in the public sector can thus be taken as a reasonable base for planning.

25. The Government will have to raise Rs. 31,000 million of domestic resources. This implies a sizeable increase in the availability of domestic resources for development in the public sector from an estimated level of Rs. 11,440 million in the Third Plan. This is both necessary and feasible. On the expenditure side while abnormal factors such as steep increase in defence spending and wage increases may not be repeated on the same scale, much larger

growth has to be allowed in expenditure on providing an efficient administration and improved social services *viz.* health and education. An increase in non-development expenditure on account of the break up of one unit and as a result of the recommendations of the newly set up pay commission is also unavoidable. Recurring liability resulting from larger development expenditure on social services has to be accommodated. Such growing liabilities require a corresponding effort to raise additional resources through a reform of the tax system, strengthening of tax-collection machinery and improvement in the efficiency of public enterprises. This effort is necessary if the objective of self-reliance is to be promoted in the context of increasing emphasis on social sectors, and if the challenge of present social and economic compulsions for a sizeable increase in public spending is to be accepted.

26. The Third Plan public sector development expenditure is estimated to be around Rs. 21,750 million as against the Plan target of Rs. 30,000 million. The shortfall of Rs. 8,250 million is attributable to a shortfall of Rs. 3,190 million in foreign resources and Rs. 5,060 million in domestic resources. Indus Basin Replacement Works constituted a programme outside the Third Plan. The assumption was that the entire rupee expenditure on Indus Basin Works would be financed from PL-480 Counterpart Funds, which would be sufficiently large to leave Rs. 1,000 million for financing the development programme. However, owing to the shortfall in PL-480 assistance, a substantial part of Indus Basin rupee expenditure had to be met from Pakistan's own resources outside the Plan. The shortfall in rupee resources for development was thus less than indicated above.

27. The shortfall in internal resources is not entirely unrelated to the reduction in aid flows. The slow growth in custom revenues was directly related to the volume of imports. In other cases, the level of general economic activity and the relatively slower growth rate accounted for reduced tax collections.

28. The tentative estimate of the overall financing of the public sector development expenditure during the Second and Third Plan is shown in Table 3 below:—

TABLE 3

Financing of the Second and Third Plans—Public Sector

(Rs. Million)

	Second Plan		Third Plan	
	Actuals	Projections	Estimated	Difference
Revenue Surplus	2,194	8,600	1,048	—7,552
Net Capital Receipts ..	1,995	2,400	1,229	—1,171
Additional Taxation	1,800	3,000	6,523	+3,523
Deficit Financing	1,135	2,500*	2,635	+135
Total Domestic Resources ..	7,124	16,500	11,435	—5,065
Foreign Resources	6,826	13,500	10,311	—3,189
Grand Total ..	13,950	30,000	21,746	—8,254

* Deficit financing level indicated in the Plan was Rs. 1,500 million. An unlinked gap of Rs. 1,000 million was left in the financing picture. This is shown here as deficit additional deficit financing.

29. A significant part of the shortfall in Revenue Surplus is attributable to the unexpected increase in defence expenditure because of the September, 1965 War and the need to make up for suspension of U.S. military assistance. The expenditure on defence was projected at Rs. 6,890 million against which Rs. 12,384 million was spent by the end of the Third Plan. This means that Rs. 5,494 million of the estimated shortfall of Rs. 7,552 million in the Revenue Surplus is accounted for by the unanticipated increase in defence expenditure. The shortfall in Revenue Surplus was, however, counterbalanced to the extent of about Rs. 3,500 million on account of larger additional tax effort than was contemplated in the Plan.

30. The public sector programme in the Fourth Plan is expected to be financed to the extent of 63 per cent from domestic resources compared to 52 per cent in the Third Plan. A substantial part of the increase in public savings is expected to come from larger budgetary surpluses at existing tax rates and from net capital receipts. However, as can be seen from the table below, it would be necessary to raise roughly 16 per cent of the required resources by the imposition of new revenue measures.

TABLE 4

Financing of the Fourth Plan—Public Sector

	(Rs. Million)
Revenue Surplus	14,550
Net Capital Receipts	5,150
Deficit Financing	3,500
Total Domestic Resources	23,200
Foreign Resources	18,000
Total Resources	41,200
Gap for a Rs. 49,000 million programme	7,800

31. In the above projection of resources, the following points which are presented in tabular form below (Table 5) deserve special attention.

(a) The natural growth in revenue receipts during the Fourth Plan is projected at a higher rate than in the Third Plan. This is consistent with the higher growth rate in the economy being projected for the Fourth Plan.

(b) Non-development revenue expenditure (other than defence) is projected to grow at a higher rate than in the Third Plan. As explained later, this is because liberal growth in the non-development expenditure of social sectors has been provided, with the requirements of the new education policy being fully accommodated.

(c) Defence expenditure increased by 125 per cent during the Third Plan. Projection for the Fourth Plan implies an increase of 21 per cent mainly to take account of the normal increase in expenditure.

(d) Net Capital Receipts are shown without deducting expenditure on Indus Basin and Tarbela as a capital liability. Capital receipts are based on static assumptions regarding profitability of public enterprises and mobilization of small savings in the public sector. The

situation can improve if adequate steps are taken in this broad area. This is discussed in measures for mobilizing additional revenue.

TABLE 5

Revenue Receipts, Non-Development Revenue Expenditure and Capital Receipts during Second, Third and Fourth Plans

(Rs. Million)

	Second Plan	Third Plan		Fourth Plan	Percentage change in 3rd Plan	Percentage change in 4th Plan
	Actuals	Projections	Estimated Actuals	Projections		
Revenue Receipts (excluding Additional Taxation)	19,200	35,378	34,030	67,642	62	67
Additional Taxation	1,800	3,000	6,523	7,800	—	—
Total Revenue Receipts (including Additional Taxation)	21,000	38,378	40,553	75,442	93	86
Non-Development Revenue Expenditure (excluding Defence)	11,504	19,888	20,598	38,091	79	85
Defence	5,502	6,890	12,384	15,000	125	21
Total Non-Development Revenue Expenditure ..	17,006	26,778	32,982	53,091	94	61
Net Capital Receipts (excluding Indus Basin)	1,995	2,400	3,687	5,149	85	40

32. The total internal resources generated for Development, Indus Basin and Defence (excluding deficit financing) during the Third Plan were Rs. 23,642 million against which Rs. 34,720 million are being projected for the Fourth Plan. This involves a 7.7 per cent per annum increase in internal resources during the Fourth Plan.

33. Tax receipts as a percentage of GNP will be 10.0 per cent in 1974-75 as compared to 9.4 per cent in 1969-70. In these projections, therefore, the past trend of improvement in the ratio of tax receipts to GNP has been maintained. This has been made possible by the large tax effort in the last five years which has improved the basic responsiveness of the tax system to changes in the level of economic activity.

TABLE 6

Ratio of Taxes to GNP

(Rs. Million)

Year	GNP at current market prices	Tax Receipts	Receipts as % of GNP
1959-60	32,000	2,000	6.1
1964-65	48,000	3,900	8.2
1969-70	70,000	6,600	9.4
1974-75	109,000	10,900	10.0*

*If additional taxation of Rs. 400 million per annum is levied during the Fourth Plan period, the ratio of taxes to GNP will be 12.2 per cent.

34. The following paragraphs present a detailed, item-by-item analysis of projections of revenue resources and expenditures.

Surplus on Revenue Account

35. The three major taxes *i.e.* Central Excise, Income Tax and Sales Tax, will grow at the average annual rates of 10.0 per cent, 8.5 per cent and 7.4 per cent respectively during the Fourth Plan against 12.7 per cent, 10.7 per cent and 4.6 per cent respectively during the Third Plan. The growth in the major taxes can be seen from the following table:—

TABLE 7

Growth of Major Taxes during Third and Fourth Plans

	Annual Compound Rate of Growth(%)		
	Third Plan (Projections) at 1964-65 tax rate	Third Plan (Implementation) at 1964-65 tax rate	Fourth Plan (Projections at 1969-70 tax rate
Customs	4.6	Nil	6.9
Central Excise	10.5	12.7	10.0
Sales Tax	6.5	4.6	7.4
Income and Corporation Tax	9.9	10.7	8.5
Other Taxes	3.3	0.5	6.1
Total Taxes	7.0	5.5	8.1
Non-Tax Revenues	8.5	16.0	9.9
Total Revenue Receipts	7.3	8.7	8.6

Customs

36. During the Third Plan, the receipts from customs remained more or less constant (without effect of additional taxation) because there was (a) a shortfall in foreign assistance, particularly in non-project aid, (b) diversion of own foreign exchange to defence, food and debt servicing and (c) diversion of non-project aid to the import of fertilizers. These factors resulted in a lower level of imports than projected, and a shifting in the pattern of imports in favour of low duty goods (capital goods, foodgrains and fertilizer.)

37. Projections for the Fourth Plan have been made on the following basis:—

(i) Exports would grow at 8.5 per cent per annum during the Fourth Plan.

(ii) Gross foreign assistance during the Fourth Plan would be Rs. 22,000 million moving from Rs. 3,310 million in 1969-70 to Rs. 4,200 million in 1974-75. This would imply an average annual increase of around 5 per cent.

(iii) After allowing for invisibles and debt servicing, physical imports will grow at about 6.0 per cent per annum during the Fourth Plan.

(iv) The rates of incidence of duty, for the various import categories for the Fourth Plan period would be:

	Incidence
Capital goods	36%
Raw Material for Capital goods ..	42%
Consumer goods ..	40%
Raw Material for Consumer goods	51%

38. On the basis of the above assumptions, the total Custom Receipts for the Fourth Plan come to Rs. 12,000 million. The implicit rate of growth in these projections is about 6.9 per cent per annum.

Central Excise

39. The projections have been made on the basis of the expected increase in capacity and production of the major excisable commodities during the Fourth Plan. On this basis, the total excise duty during the Fourth Plan comes to around Rs. 16,610 million implying an average growth rate of 10 per cent per annum.

40. During the Third Plan, the elasticity of Central Excise, using large scale manufacturing as the determining variable, was around 1.1. In the Fourth Plan, large scale industry is likely to grow at 12.5 per cent per annum. Consequently, the receipts from Central Excise would have been expected to grow at a faster rate. It seems that with the introduction of capacity taxation, some rigidity has been introduced into the tax system, with the result that receipts are expected to increase at a lower rate than the growth in large scale manufacturing. The implicit elasticity is thus expected to come down from that experienced during the Third Plan.

Income Tax

41. The projections of Income Tax and Corporation Tax are based on the elasticity approach. The determining variable in the case of income tax payable by individuals is non-agricultural income and that in the case of companies, value-added in large scale manufacturing industry. The average elasticity for Third Plan works out at 1.2 in the case of Income Tax payable by individuals and 0.46 for Income Tax and Corporation Tax payable by companies. In view of the fact, however, that an increasing number of tax-holiday industrial undertakings are expected to yield tax revenue during the Fourth Plan, an elasticity of 0.64 has been assumed for the Fourth Plan for Income Tax and Corporation Tax payable by companies. Assuming a growth rate of 7.5 per cent in non-agricultural income, a growth rate of 9 per cent in income tax payable by individuals has been adopted for the Fourth Plan Projections. In case of tax on companies, a growth rate of 12.5 per cent in value added in large scale manufacturing industries has been assumed which gives a growth rate of 8 per cent in Income Tax and Corporation Tax payable by companies for the Fourth Plan. On the basis of these rates, the receipts from Income Tax during the Fourth Plan are likely to be Rs. 6,570 million.

42. In the case of individual Income Tax, the elasticity has declined during the Third Plan. The major reasons for this appear to be liberal investment allowance, reduction in tax rates and raising the taxable income to which the top marginal rate was applicable from Rs. 60,000 to Rs. 100,000 in 1967. As far as Corporation Tax is concerned, it seems that tax holiday has resulted in substantial revenue loss. This is substantiated by the fact that receipts from Corporation Tax have shown only modest growth in the Third Plan.

Total Taxes

44. Total taxes including Provincial Taxes are expected to grow at an average annual rate of 8.1 per cent. The rate of growth of total taxes during the Third Plan (5.5 per cent) was low because of actual decline in customs receipts and the effect of disturbed conditions in 1968-69. Non-tax revenues (including interest receipts) have been projected at rates lower than previously experienced. Hence total revenue receipts (tax and non-tax) are expected to increase at an annual rate of 8.6 per cent compared to 8.7 per cent achieved during the Third Plan.

Non-Development Expenditure

45. In projecting non-development expenditure, adequate provision has been made for meeting the requirements of general administration, development departments, defence and the rising debt service liability. In fact, very liberal provision has been made for development departments (16% per annum increase compared to 11% per annum in the Third Plan) so that the new education policy can be accommodated and the other development departments can be run more efficiently. The growth of the main elements of non-development expenditure is shown in the table below:—

TABLE 8

Growth in Non-development Expenditure during the Third and Fourth Plans

	Annual Compound Rate of Growth(%)		
	Third Plan (Projections)	Third Plan (Implementation)	Fourth Plan (Projections)
Defence	2.0	15.6	4.3
General Administration	3.2	7.0	8.4
Development Departments	13.1	10.9	16.0
Debt Services	14.0	19.2	11.3
Total Non-Development Expenditure ..	6.9	12.5	9.5

46. In addition to the unexpected increase in defence expenditure during the Third Plan, non-development expenditure on administrative and development departments increased sharply in 1969-70 as a result of the new wage policy. Compound rate of growth as applied here is dependent upon the end years. Therefore, the rate of growth in non-development expenditure seems disproportionately large during the Third Plan. In fact, up to 1968-69, the rate of increase in administrative expenditure had been only 2.1 per cent per annum and in case of development departments only 9.4 per cent per annum. Against this, the Fourth Plan Projections have assumed much higher rates.

47. These projections have resulted in the growth of revenue surplus by 6 per cent annually during the Fourth Plan, rising from a level of Rs. 2,515 million in 1969-70 to Rs. 3,356 million in 1974-75.

Net Capital Receipts

48. The net capital receipts of the government excluding Indus Basin increased substantially during the Third Plan period inspite of the high rate of increase of foreign debt repayment. A reasonable increase in net capital receipts has been projected for the Fourth Plan.

TABLE 9

Projection of Net Capital Receipts for the Fourth Plan

(Rs. Million)

	1964-65 (Actual)	1969-70 (B.E.)	1974-75 (Projections)	Total Fourth Plan
Capital Receipts :				
Unfunded debt	188	213	234	1,111
Public borrowing (non-bank)	70	50	70	340
Depreciation and other reserve funds	195	525	800	3,389
Other Receipts	195	546	856	3,797
Total Receipts	648	1,334	1,960	8,637
Capital Liabilities :				
Repayment of foreign loans	82	246	436	1,706
Indus Basin	—	511*	—	—
Other Liabilities	38	494	358	1,782
Total Liabilities	120	1,251	794	3,488
Net Capital Receipts	528	83	1,166	5,149

*A provision for Indus Basin outside the Plan was needed in the Third Plan. This would not be required in the Fourth Plan.

49. The improvement in the position of net capital receipts during the Fourth Plan compared to the experience of the Third Plan is due to the exclusion of Indus Basin expenditure from the capital liabilities. Capital receipts are projected without taking into account any major change in policy regarding the functioning of public enterprises. A large scale disinvestment programme or alternatively an improvement in functioning of the public enterprises may yield larger capital receipts. Similarly the present position regarding the mobilization of savings has been projected without showing any major change in the trend. Both these areas can be influenced by public policy, which would provide the basis for the effort to mobilize additional resources.

50. Summarising the projections discussed in the preceding paragraphs, the domestic resources excluding additional taxation and deficit financing are likely to the of the order of Rs. 19,700 million, broadly indicated as follows:—

Revenue Receipts	67,642
Non-Development Revenue Expenditure	53,091
Revenue Surplus	14,551
Net Capital Receipts	5,149
Total Domestic Resources (excluding additional taxation and deficit financing)	19,700

51. In addition to the domestic resources, about Rs. 18,000 million of foreign resources are expected to be available in the public sector during the Fourth Plan. This leaves a gap of Rs. 11,300 million to be mobilized through deficit financing and additional tax effort.

Deficit Financing

53. The relationship between economic growth and demand for money in the economy is now well recognized. Expansion of money supply in line with planned growth of the economy and changes in the flow of real resources, may be necessary for facilitating continued growth and expansion of economic activity. This obviously provides some scope for the public sector to obtain credit from the banking system and generate primary reserves for further credit expansion.

54. The manipulation of monetary policy in line with changing economic situation is essentially a short-term phenomenon. Lines of action cannot be laid down for a plan period, as the policy has to steer its course in the midst of periodic fluctuations in various economic indicators. It is, however, possible to indicate broadly the magnitude of changes in money supply and other related variables which would be desirable within the context of the Plan assumptions. While this does not lay down a time path, nor a definite target, it indicates a broad frame of reference.

55. Projections of monetary expansion and deficit financing were made with this broad view in the Second and Third Five-Year Plans. Monetary expansion of the order of Rs. 4,000 to Rs. 5,000 million was considered within the safe range for the Third Plan on the assumptions that 6.5 per cent growth rate in GNP would be realized and an increasing flow of foreign assistance would be available to finance the Plan. It now appears that increase in money supply during the Plan period would probably be around Rs. 4,000 million. Since, however, the growth in GNP was less than planned and there was a decline in the ratio of aid inflow to GNP, the availabilities did not increase in line with earlier projections, giving rise to inflationary pressures in the first two years of the Plan and subsequent need for stringent monetary restraint. This led to wide fluctuations in the availability of credit to the private sector.

56. Deficit financing during the Third Plan adds up to roughly Rs. 4,000 million (including the provision for deficit financing in the budget in 1969-70). This includes Government borrowing on account of wheat procurement, against sugar stocks and for other state trading operations. Deficit financing for the development programme was only Rs. 2,600 million. This compares with the Plan provision of Rs. 2,500 million, (including the uncovered gap of Rs. 1,000 million which was to be financed by various additional measures including additional deficit financing). Roughly 40 per cent of the total deficit financing was undertaken during the first year of the Third Plan due to sudden and unavoidable pressures arising from war and the stoppage of foreign assistance.

57. Total bank credit registered an increase of Rs. 3,215 million (or 50 per cent) to Rs. 9,603 million during the first four years of the Plan. While in 1965-66 bank credit increased at a modest rate of 2.9 per cent, it increased by 25.2 per cent in 1966-67 and 12.8 per cent and 3.4 per cent respectively in the following two years. Private sector obtained resources from the banking system (including bank's investment in shares) to the tune of Rs. 3,345 million during the first four years. At the same time there was an increase of Rs. 2,973 million in time deposits of the public with the banking system.

58. In the past, safe limits of monetary expansion were determined with reference to the target of growth in real output plus two percentage points to allow for the progressive monetization of the economy. Subsequently when the frame of reference of policy was extended to cover monetary assets (money supply plus time deposits in the banks and postal saving accounts) an annual increase of 2.5 per cent above the growth in G.N.P. was considered an equally valid formula. This approach, though useful, was indeed arbitrary

and needed further refinement. A special Working Group of Experts has examined the question of refining the methodology and making empirical estimation of the variables involved. According to the preliminary findings of the Group, the projections of safe level of monetary expansion could be made directly in relation to the monetization of the subsistence sector. The Planning Commission has worked out the safe level of monetary expansion by applying some of the changes in marketable surplus of agricultural crops, growth in other sectors of changes in marketable surplus of agricultural crops, growth in other sectors of the economy and likely availability of foreign resources. The existing ratio of monetary assets to the flow of resources in the monetized sector so determined is then used to determine the safe level of monetary expansion in the Fourth Five-Year Plan. The preliminary results of this empirical exercise indicate that monetary expansion of the order of Rs. 10,000 million can be safely undertaken during the Fourth Plan period, provided all the variables assumed in the exercise behave in a predetermined way.

59. National income is projected to increase by 37 per cent during 1970-75 or by 6.5 per cent per annum over the Fourth Plan period. It is estimated that while agricultural production during the Fourth Plan period is likely to increase by about 5.3 per cent per annum, the average annual increase in marketable surpluses will be around 8.4 per cent, showing that monetization of the subsistence sector will be at a faster rate than the increase in agricultural production. The relative size of the subsistence sector would decline with increased marketable surpluses of the farmers. An improvement in transport facilities and growing urbanization will also result in commercializing a part of the subsistence sector. This coupled with the projected growth of 12.5 per cent per annum in value added in large scale industry would accelerate the pace of monetization of the economy.

60. The demand for money would also be influenced by changes in the level and ratio of foreign assistance flows in the economy. Since the foreign assistance flows would decline as a proportion of GNP in the Fourth Plan, total resources in the monetized sector, including foreign resources, are estimated to grow at roughly 8 per cent per annum.

61. The ratio of monetary assets to real resources in 1964-65 was 35.7 per cent. Monetary assets in June 1970 are estimated at Rs. 20,616 million. The ratio of monetary assets to the projected flow of real resources, on this basis, works out at 36.1 per cent in 1969-70. If this ratio of monetary assets to real resources is kept constant for 1974-75, monetary assets can be expanded by roughly Rs. 10,000 million or by 48 per cent, which is in harmony with the growth of 8 per cent per annum in real resources during the Fourth Plan period.

TABLE 10

Ratio of Monetary Assets to Total Resources

(Rs. Million)

	1964-65	1969-70	1974-75
(1) GNP at current market prices	48,616	78,500	107,600
(2) Subsistence sector	14,610	23,977	32,900
(3) Net monetized sector (1—2)	34,006	54,523	74,700
(4) Net foreign resources	1,257	2,510	2,900
(5) Total resources in the monetized sector (3+4) ..	35,263	57,139	77,600
(6) Monetary assets	12,572	20,616	30,500
(7) Ratio of monetary assets to total resources	35.7	36.1	39.3

62. While the increase in monetary assets represents additional liabilities to the banking system, it also corresponds to additional assets of the banks in the form of investments in shares and bonds and loans and advances to the public and private sectors. Present estimates suggest that in order to finance a plan of Rs. 45,000 million in the public sector the Government will have to resort to bank borrowing or deficit financing to the tune of Rs. 3,500 million during the Fourth Plan. Government borrowings from the banking system of this magnitude will be consistent with the estimated increase in the demand for money and the expansion of credit for the private sector which is estimated to be in the neighbourhood of Rs. 6,500 million during the Fourth Plan.

63. Keeping the Government deficit at this level will make it possible to extend more bank credit to the private sector. During the Fourth Plan additional bank credit to the private sector is projected at Rs. 6,500 million as against an estimated Rs. 4,000 million during the Third Plan, *i.e.*, 63 per cent higher than in the Third Plan. New bank loans will thus finance about 22 per cent of private fixed investment in the Fourth Plan as against about 18 per cent in the Third Plan.

Mobilization of Additional Resources for the Fourth Plan

64. The above analysis shows that it would be possible to finance roughly four-fifths of the domestic resource requirements of the Plan from existing revenue-sources. This brings out the strength of the present financial system and the effect of the cumulative reforms carried out over the last three plan periods. Pakistan's own contribution to public sector development effort had come down to only Rs. 430 million in 1965-66. This increased to over Rs. 3,000 million in 1969-70. The increase in the resources available for public sector development has largely come through a massive tax effort during the Third Plan.

65. It can be seen that the existing tax system is not sufficiently elastic with respect to growth. There are still a number of weaknesses in the financial and revenue structure which need to be corrected in the interest of laying the foundations of a self-reliant economy. Any financial system which seeks its orientation in terms of development must produce automatic growth in revenues larger than the increase in income. This is still not happening. In the Third Plan, tax revenues in Pakistan showed a natural rate of increase of 5.5 per cent per annum (excluding the effect of new taxes imposed during the Plan) which was roughly in line with the growth in GNP. Had it not been for a massive additional tax effort, the ratio of tax to GNP would have hardly shown any improvement.

67. The present ratio of tax revenue to GNP in Pakistan is amongst the lowest in the world. It compares quite unfavourably with countries in a roughly comparable stage of development. The nation cannot discharge its increasing obligations towards meeting the requirements of social justice without mobilising an increasing share of GNP. To improve this situation and suggest ways and means of raising additional revenues during the Fourth Plan, the government has set up a Taxation Commission.

68. A reform of the tax system is needed with the specific objective of making it more responsive to changes in income. This is the only way in which the nation can meet the expanding bill of non-recurring expenditure and still generate some public savings. The non-development expenditures on providing efficient administration, law and order services and recurring liability of the

development departments and social services like education and health are expected to increase rapidly in the coming years. As detailed above, the non-development expenditure would increase during the Fourth Plan period at a rate of 9.5 per cent per annum. This is more than the rate of increase in the overall tax revenues. This pattern of public finance is hardly conducive to any significant movement towards the objective of self-reliance.

69. In seeking to move towards a taxation system which would yield more revenue with growth in incomes, it is necessary to analyse the factors that have contributed to the relative inelasticity of the system in the past. Surprisingly, the greatest source of inelasticity in the tax system is in the direct taxes. The present system of land taxes is completely inelastic. The growth in the collections from agricultural taxation has in the past been obtained by repeated increases in tax rates; this is hardly a satisfactory method of realizing revenues. If we have a tax system in which the sector constituting roughly half the GNP and expected to grow rapidly is bearing a tax burden which is fixed in money terms and cannot change automatically with increasing incomes, it is difficult to conceive of an elastic tax system.

70. Reform of the age old agricultural taxation system is urgently needed. This can take many forms and would have to be carefully worked out. However any reform would have to take account of a few basic principles. It is necessary that while agriculture as a whole bears its burden of taxation, exemption should be provided to small subsistence farmers who have hardly any surplus of income over and above their basic requirements for paying taxes. At the same time there is need for progressivity and elasticity in the tax system. More prosperous landowners should pay more than their counterparts with lower earnings. The tax collections should grow with increasing incomes. These objectives can be realized either by a system of graduated land tax periodically revised or by extending the principles of income tax to agricultural incomes.

71. In the case of non-agricultural incomes, income tax on individuals has shown an elasticity of only slightly above one. The elasticity has been declining. This is not satisfactory in view of the reported behaviour of income distribution which has been getting skewed in favour of upper income groups. The elasticity of corporate income tax is less than 0.5. This is because in an effort to encourage private investment very large tax concessions have been given which have assumed the character of minor loop-holes in the system. Tax holiday and investment allowances have been used to reduce tax liability beyond what was the original intention of the tax legislation. In addition, tax evasion has been practised on a large scale as is revealed by the recent declarations of concealed incomes. In addition to the need for raising more resources for the public sector, the growing concern about distribution would dictate that the direct taxation of income of the upper income groups should be tightened. The best weapon so far devised for checking concentration of income and wealth in a private enterprise economy is a progressive income tax combined with wealth tax and inheritance duties. These taxes have, in Pakistan, not produced the desired results so far, because the effectiveness of these taxes was diluted by various concessions.

72. It would also be necessary to use the tax system more effectively to curb luxury consumption in the economy. While imported luxury goods are subject to very high rates of duty, it is possible for the company executives and directors to pass on high cost of such luxury consumption to the Government by charging the expenditure as a tax deductable item. Large expenditures on travel, entertainment, luxury housing, cars, luxury offices and advertisements is still deductable as business expenditure for tax purposes. This system not only

deprives the Government of revenue resources, it serves as an incentive for conspicuous consumption in the private sector, setting a general pattern to be followed by others. It also acts as a source of social tension. Large expenditure on advertisements in a scarcity ridden economy like Pakistan is a national waste. The Government should prescribe the limits of expenditure which may be allowed as tax deductable for advertisements and publicity. Recently the State Bank of Pakistan took a welcome step of prescribing certain limits on such wasteful expenditure in the case of banks. This example can be followed in other spheres.

73. One major item of luxury consumption in the economy, which is not adequately taxed is the construction of luxury housing. Considerable resources in land and material are locked up in palatial housing in various cities of Pakistan. This pattern of housing development is a great fillip to other forms of luxury consumption in the form of furniture and carpets, which also remain tax free. Disparity in the manifest way of life among the rich and the poor is widening. It may be necessary to place some curbs on the size of the individual housing units, which can be constructed in the country and the type of finish for such houses. Any one living beyond this standard must be subject to very high rates of taxation at the time of initial construction as well as on an annual basis.

74. In the case of indirect taxes, the elasticity of excise duties has been reduced as a result of capacity taxation applied to a number of items. In these cases, tax liability of the concern does not increase either as a result of increased production or higher prices. Secondly, the system of rebates and refunds presently in use for export and other factors involves large loss of revenues. Refunds and rebates estimated for the next five years add up to a sizeable figure of roughly Rs. 3,500 million. If alternative means of encouraging exports can be strengthened, it may be possible to add considerable revenues to the public fund by reducing rebates, refunds and abatements.

75. The Plan cannot lay down a taxation policy for the next five years. What is sought to be indicated in the above paragraphs is the general line of approach that would be needed during the Fourth Plan period and the scope it presents for mobilizing resources for the development effort during the Plan period. With a major overhaul of the system of direct taxation on the lines suggested above and a strengthening of the administrative machinery for collection of taxes it should not be difficult to devise a programme for collecting sizeable additional tax revenues. Even if the programme is gradually implemented, seeking additions of Rs. 400 million annually for the next five years, the cumulative effect for the Plan period would be a mobilisation of Rs. 6,800 million. Another Rs. 1,000 million can be mobilised by improving the efficiency of public sector corporations and strengthening the machinery for mobilising private small savings. Some proposals for doing this are discussed in the following paragraphs.

76. A major problem of public finance which has assumed significant proportions relates to the financial position of the autonomous corporations and public sector enterprises. The Government has in the last two decades invested very large amounts in public undertakings in the fields of industry, water and power development. With minor exceptions, all these projects should be paying propositions. While the public sector cannot adopt aggressive profit making policies of the private sector as it does not have the advantage of entering into the most profitable fields, it is absolutely necessary that it should at least earn a minimum rate of return in addition to the accumulation of depreciation funds and repayment of outstanding debt liabilities. The analysis so far shows that the performance of the public sector undertakings is not quite satisfactory. The Government is hardly getting any return on the billions of rupees invested in

such undertakings. The efficiency of the public sector enterprises assumes greater significance in view of the increasingly larger role proposed to be assigned to them in future. It is necessary to undertake a thorough review of the administrative practices and pricing policies of public enterprises with the main objective of improving their efficiency and providing an adequate return on their investment.

77. The Government should issue a directive to the public corporations to undertake a review of their investments and performance of past projects. A yardstick in the form of a minimum return of 10 per cent (over and above debt servicing obligation) should be laid down. The agencies should separate the projects which are meeting this criteria. In the remaining cases, problems should be indentified. Where the nature of projects is such that it cannot earn a return, a specific case should be made for getting a subsidy from general revenues. In most cases, however, it should be possible to adopt a phased programme for improving the efficiency of the project and for ensuring a reasonable rate of return. If the Government agency concerned feels that it cannot administratively follow such a programme, the only logical course for it would be to part with the ownership and management of the project and let it be run by a private enterpreneur who feels he can run it better. The Government should set up a high-powered Committee to supervise this programme which should be undertaken fairly early in the Fourth Plan.

78. For the future, consideration may be given to setting up a development bank for the public sector. The bank would treat all the development agencies on the basis of commercial and financial viability of their projects. Wherever it is considered necessary that such economic standards be relaxed for other overriding considerations, the Government should give a cash subsidy to the project from general revenues for making it financially viable. Initially, the bank may be used only for projects exceeding Rs. 20 million non-recurring cost in sectors other than social sectors.

79. The Government may have to strengthen its machinery for mobilizing private small savings. The response to small savings schemes currently in operation was not very encouraging during the Third Plan period. Certain measures were taken to strengthen the mechanism. The Fourth Plan projections do not show any significant improvement in the trend. It is suggested that a thorough review should be undertaken of the Government's efforts to mobilize small savings. The savings schemes in the private sector specially through NIT and ICP have been proving highly attractive. There is not much that the Government can do to compete with such attractive investment out-lets in the urban areas. It may not even be desirable to compete for such savings. However, in the rural areas Government saving agency is probably the only link available between agricultural incomes and the organized capital market of the country. Since very large increase in agricultural incomes is contemplated during the Fourth Plan period, mobilization of savings in the agricultural sector by using the existing machinery for small savings assumes great importance.

80. Savings are largely induced by precautionary motives. These are savings against a rainy day. In advanced countries where systems of collective social security are operating, a part of the private individual savings is replaced by contributions to the social security fund. Elsewhere in the Plan, it has been recommended that we should devise a system of social security for workers and employers providing them with retirement and unemployment benefits. This would be financed by contributions from the workers, employers and possibly the Government. Initially the receipts in the pool would exceed disbursements. Contributions to the fund would be made now, retirement benefits would be

fund rises. In fact, if the unemployment continues to grow, there may not be any net surplus from the fund. The fund may keep growing for a considerable period. Exact quantification of the availability of resources from the introduction of this scheme during the Fourth Plan period can be worked out. Rough calculations point to the possibility of mobilising substantial resources from this scheme.

82. The projections of resources in this chapter have been made on the basis of existing distribution of functions and taxation powers between the Centre and the Provinces. This may have to undergo a fundamental change in the light of the new Constitutional arrangements. The extent of change would depend upon the degree of provincial autonomy adopted in the new Constitution. The calculations contained in this chapter indicate the broad magnitude of the total resources which may be available. The distribution of such resources among different provinces would depend upon the relative role assigned to the Central Government and the consequent size of the divisible pool with the Centre.

CHAPTER 5

BALANCE OF PAYMENTS AND EXTERNAL RESOURCES

For the Fourth Plan, external sector policies will be both a reflection of the overall Plan strategy, as well as important instruments of implementation. During most of the Second Plan the country was the recipient of virtually as much foreign aid as it could absorb. This permitted a liberal policy for imports, particularly of food, raw materials and capital goods, and facilitated a sharp increase in investment and production. The sudden interruption in the flow of external assistance in the initial year of the Third Plan created several unexpected pressures. The strategy of the Third Plan was reshaped to intensify export promotion efforts, to achieve self-sufficiency in food and to reduce the demand for imports. The Fourth Plan will take the next logical step along this path. It will continue to emphasise the growth of exports, it will complete the movement towards eliminating food imports, and it will commence import substitution in capital goods on a significant scale.

2. The Plan aims at increasing exchange earnings by 8.5 percent a year, while total payments are projected to increase at about 6.6 percent a year during the five year period. This will be an important step forward in reducing the foreign exchange gap. An aggregated balance of payments comparing the outcome of the Third Plan with the targets of the Fourth Plan is shown below :—

TABLE 1

Balance of Payments—Third and Fourth Plans

(Rs. Million)

	Third Plan	Fourth Plan	Increase (percent)
A. Payments			
1. Merchandise	24,420	33,970	39.1
2. Invisibles	7,250	9,350	29.0
3. Debt Servicing	3,170	6,000	89.3
Total ..	34,840	49,320	41.6
B. Financing			
1. Own Earnings	19,001	27,320	43.8
2. Foreign Resources	15,913	22,000	38.3
3. Change in Reserves and Errors and Omissions ..	—74	—	—

EXPORT PROJECTIONS AND POLICIES

Evaluation :

3. Throughout the 1960's, the country's foreign exchange earnings have been growing at a rate faster than that of G.N.P. While the GNP grew at an annual rate of around 5.5 percent, exchange earnings grew at about 7 percent. By 1969-70, export earnings were almost twice as high as in 1959-60.

4. Major factors in the development of exports have been strong financial incentives through the Export Bonus Scheme, and domestic policies conducive to increased production for the export market. These measures, such as tax, credit, and investment policies which stimulated production while restraining domestic consumption, have been an essential element in export expansion. During the Third Plan period, the Export Bonus Scheme was strengthened; the six different Bonus and Stamped Bonus rates, which existed in the early years of the Plan, were reduced to three. Financial incentives were improved for almost all exports covered by the scheme by moving items from lower to higher Bonus entitlement categories.

5. In addition to these major factors affecting exports, there has been a strengthening of the institutional arrangements necessary for continued export expansion. The Export Promotion Bureau and the Trading Corporation of Pakistan (TCP) have gained experience. They have facilitated the identification and elimination of bottlenecks in production, transport, grading, and the international marketing of our products. They are now ready for a determined drive for export expansion during the Fourth Plan period.

6. Export performance during the Third Plan period has been uneven. In the first three years the annual increase in exports was somewhat higher than the Plan target of 9.5 per cent per annum. There was a slight slow-down in the subsequent two years and, as a result, the annual increase in the Plan period as a whole will be about 7 percent which is in line with the Second Plan performance but lower than the Third Plan target. In view of the rapid increase in earlier years, however, the cumulative foreign exchange earnings for the five year period will be almost equal to the target of cumulative earnings for Third Plan period.

TABLE 2

Foreign Exchange Earnings during the Third Plan

(Rs. Million)

	1965-66	1966-67	1967-68	1968-69	1969-70	Total (1965-70)
Total Exchange Earnings	3,415	3,485	3,651	4,200	4,250	19,001
Merchandise Exports	2,687	2,751	2,841	3,124	3,250	14,653
Invisibles (including remittances) ..	728	734	810	1,076	1,000	4,348

7. The increase in foreign exchange earnings from merchandise exports during the Third Plan exceeded that of the Second Plan, the annual rate of growth being 6.5 percent. The average subsidy on exports under the Bonus Scheme rose from about 30 percent at the beginning of the Third Plan to about 60 percent in 1968-69. As a result, the export of manufactures increased at an annual rate of about 20 percent, thus outstripping the Third Plan target of 18.1 percent for manufactured items. Cotton manufactures grew at an annual rate of 22 percent, jute manufactures 17 percent, and all other manufactures 22 percent.

8. Invisible earnings increased at 7.4 percent per year, mainly due to the rapid rise from remittances of Pakistanis working abroad. These remittances received a 30 percent Bonus entitlement, which amounted to a 47 percent subsidy during the first half of the Plan period. After the U.K. devaluation in November 1967, the Bonus entitlement was raised to 40 percent, implying a subsidy rate of about 70 percent. Due to this increase, plus a rise in the voucher price, remittances have increased at an annual rate of over 26 percent during the Third Plan, reaching a level of Rs. 410 million or about 40 percent of all invisible earnings in 1968-69. Other invisibles increased at less than 2 percent annually during the same four year period.

9. One of the aims of the Second and Third Plans was to diversify exports and to reduce our dependence on a few primary commodities, and that goal has been achieved to a large degree. The index of commodity concentration shows a significant decline, indicating a dispersal of export earnings among a larger number of items. It was, however, expected that this would eb accomplished while both processed and primary exports were rising. The major primary commodities were not covered by the Bonus Scheme, and did not get other adequate financial incentives for export expansion. As shown in Table 3, not only did these commodities decline as a proportion of total exports, but as a group they also declined in absolute terms, from earnings of Rs. 1,449 million in 1965-66 to Rs. 1,000 million in 1969-70. This absolute decline in an important segment of exports was the primary cause of the shortfall in merchandise exports. Moreover, two years of bad weather affecting agricultural production, depressed the exportable surplus of primary commodities. Finally, as food self-sufficiency became the main element in the revised Plan strategy, the structure of incentives was biased towards the production of food rather than cash crops.

TABLE 3

Major Exports Not Covered by Bonus Scheme

(Rs. Million)

Item	1965-66	1966-67	1967-68	1968-69	1969-70
Raw Jute	863	870	759	731	780
Raw Cotton	278	308	442	347	215
Hides and Skins	308	116	72	45	5
Total ..	1,449	1,294	1,273	1,123	1,000
Percent of Total Merchandise Exports	53.9	47.0	44.8	35.9	30.8

10. The clear difference in the performance of exports receiving financial incentives and those not receiving them will influence the policies to be employed during the Fourth Plan. Given the country's requirements of foreign exchange for a development programme of a size considered socially desirable, it becomes evident that a very large burden must be placed on the export sector. The preliminary projections suggest an increase of almost 50 percent in export earnings over the five year period, or an annual compound rate of 8.5 percent. The attainment of this rate will call for continued efforts in trade promotion and in mobilizing an exportable surplus. The growing trade/barter relations with the socialist and RCD countries must be maintained.

11. A detailed examination of the export prospects of the country's industrial products leads to the following conclusions :

(*a*) Over the short and medium term, the agrobased industries can expand their products provided quality is improved and price competitiveness maintained. A shift towards the more finished items among these products, e.g., from cotton yarn and grey cloth to better quality cloths and finished garments, will also be necessary;

(*b*) In view of the obstacles to export and the severe competition that exists in the markets for Pakistan's traditional manufacturers, over the longer run a diversifaction of exportable manufactures will be necessary.

Export Projections

12. The experience of the Third Plan showed that Pakistan could sustain an annual export growth rate of 8 per cent. This was more or less in line with the expansion in world trade, and significantly faster than the growth of exports from the developing countries. During the Fourth Plan period, world trade is expected to grow at around 10 percent per annum and the proposed target of 8.5 percent leaves room for a rate of export growth closer to that of world trade, given the appropriate policies, and the accelerated diffusion of modern agricultural technology.

13. The possibilities of a faster growth of exports, in fact, exist. The production of rice in West Pakistan is projected to increase to 3.7 million tons by 1974-75, and as East Pakistan reaches food-self-sufficiency by this time, this could create an exportable surplus of nearly two million tons, as against the present projections of 700,000 tons. Assuming appropriate policies regarding milling, grading, marketing and prices, earnings from rice could easily be double the Rs. 300 million projected. Similarly, the projections of leather and leather goods have been made at a rate that is below the past trend. Higher earnings are also possible from engineering products and from raw cotton, if a more effective programme can be implemented.

14. To attain a 8.5 percent annual export expansion, manufactured commodities sector will have to maintain fairly high rates of growth. In addition, a significant amount of earnings are also expected to come from new items. Earnings from the major primary commodities, however, could decline, if present targets of production and diversion to manufactures are maintained.

15. The projected export earnings are broken down by major components in Table 4 and a detailed projection is indicated in Table 5.

TABLE 4

Foreign Exchange Earnings during the Fourth Plan

(Rs. Million)

	1970-71	1971-72	1972-73	1973-74	1974-75	Total (1970-75)
Total Exchange Earnings ..	4,610	5,000	5,430	5,890	6,390	27,320
Merchandise Exports ..	3,525	3,825	4,150	4,505	4,890	20,895
Invisibles (including remittances)	1,085	1,175	1,280	1,385	1,500	6,425

TABLE 5

Export Targets for the Fourth Plan

(Rs. Millions)

Item	Bench-mark 1969-70	Target 1974-75	Annual Growth Rate (Per cent)
I. *Manufactures :*			
Jute Products	810	1,400	+11.5
Cotton Cloth	220	450	+10.8
Cotton Yarn	270	350	+5.4
Others	550	1,120	+15.3
Total Manufactures	1,900	3,320	+11.8
II. *Primary :*			
Jute	780	670	—3.0
Cotton	215	250	+3.0
Rice	85	300	+28.5
Others	270	350	+5.3
Total Primary	1,350	1,570	+3.0
III. *Total Exports :*	3,250	4,890	+8.5

Brief commodity notes explaining some of the assumptions underlying these projections are given in the Appendix to this chapter.

16. The price assumptions built into the estimates imply, in general, some reduction as compared with prices ruling during the Third Plan. This is in line with the objectives of the Fourth Plan, which would actively use pricing incentives to stimulate the disposal of a larger volume of exports. The nature of the export commodities and the small share of Pakistan in the world market, except for raw jute, would ensure that demand is sufficiently elastic at the prevailing international market price. The policies by which this price reduction will be effected have been left flexible, as there is a wide variety of instruments that will achieve the same aim. Some discussion of the policy measures is given later in this Chapter.

Export Policies

17. The projected targets will call for a considerable emphasis on the export sector and require a careful mix of policies to bring about a balance between the country's external and domestic objectives. The following are the broad measures that will be put into effect during the Plan in order to increase the buoyancy of the export sector :

(*i*) It is intended to continue the incentives to manufactured exports. A detailed review of the current incentives is to be undertaken with the aim of rationalizing the structure so as to relate the size of the incentive to the amount of domestic value-added and productivity in various industries, and the net foreign exchange earned. The extension of export incentives to primary commodities will be essential if their production and export is to be increased.

(*ii*) Export policy, with a view to raising the exportable surplus, must be coordinated with the Industrial Investment Schedule and import policy so as to achieve consistent results within the Plan framework. Appropriate policies will be followed to provide incentives for increased production as well as to introduce measures ensuring that consumption expands only within the discipline of the Plan.

(*iii*) Foreign exchange earning activities will need to be given as much weight as foreign exchange saving efforts. Import substitution industries having no basic long-term comparative advantage will not be allowed to expand while export industries with a high degree of potential for achieving an internationally competitive position would be allowed liberal imports of industrial raw materials and spares.

(*iv*) Appropriate finacial policies will be designed to control inflation, in order to maintain the relative profitability of the export market-vis-a-vis the home market as well as to ensure the country's competitiveness in international transctions.

(*v*) Steps will be taken to streamline the institutional structure of trade and commerce, so that the producer is given an appropriate part of the benefits from expanded exports.

(*vi*) The expansion of the newer export items, machine-tools, electric goods, new varieties of rice, etc., will call for more than mere price-competitiveness, and various specialised services, such as export credit facilities, market surveys, productivity research, etc. will be needed for establishing new markets.

(*vii*) Considerable emphasis will be placed on improvement of ports, shipping, roads, and other elements of the transport network in order to ensure the easy access of exportable goods to international markets.

(*viii*) The institutional arrangements for exports, particularly the export promotion agencies, the Trading Corporation of Pakistan, and the Jute Marketing Corporation will be strengthened.

(*ix*) The special problems of the invisible or service items, such as tourism, banking, insurance, shipping, air transportation and consultancy services, will be examined, and suitable incentives provided

(*x*) While West Pakistan's diversification effort continues, a comprehensive programme should be drawn up for development and export of new products for which East Pakistan has a potential comparative advantage.

EXTERNAL RESOURCES

Evaluation

18. The projection of the availability of external resources during the Fourth Plan must be based primarily on an analysis of experience during the Second and Third Plans. During the Second Plan period the gross inflow of external resources, including PL-480 and the Indus Basin Works imports, amounted to Rs. 11,650 million, constituting about 48 per cent of total payments. The net inflow during this period was Rs. 10,650 million, or 91 per cent of the gross flow. The Third Plan envisaged that external resources would contribute about 50 per cent of total payments. A preliminary evaluation of the Third Plan shows that there has been a substantial shortfull as the gross inflow of external resources is now estimated at Rs. 15,913 million, or about 22 per cent less than the Plan projection and the

gross inflow constituted about 45 per cent of total payments. Taking debt servicing into consideration, the net inflow was Rs. 12,743 million. The main reasons for a smaller flow of external resources are :—

(*a*) The Consortium pledges were 35 per cent lower than projected.

(*b*) The shortfall in Consortium assistance was only partly counterbalanced by non-Consortium assistance, mainly in the form of project aid, which had a longer gestation period.

(*c*) The shortage of rupee resources for financing the public sector programme led to slower utilization of project assistance.

(*d*) For the private sector programme, commitments undertaken were lower than projected.

(*e*) With a higher growth in agriculture, the capacity to absorb PL-480 commodities was reduced.

19. During the Third Plan the gross flow of external assistance increased by about 37 per cent over the Second Plan period, but the net inflow of resources increased by only about 20 per cent. The level of the net flow of external assistance in 1969-70 was about the same as that in 1964-65.

20. As a proportion of G.N.P. the gross flow of foreign assistance, including PL-480 imports and Indus Basin assistance, increased from about 3 per cent in 1959-60 to 6.8 per cent in 1964-65 ; but in 1969-70 dropped in gross terms to 4.1 per cent, and in net terms to only 3.1 per cent of G.N.P. The main reason for the reduced level of net inflow of foreign assistance was the contracting of credits on relatively hard terms during the earlier years of the Third Plan, leading to a sharp rise in debt servicing liability.

21. The rising debt liability poses serious constraints on future borrowing capacity. As guiding principles, the Government has decided that the country's debt servicing liability should not appreciably exceed 20 per cent of its foreign exchange earnings and should normally increase at a rate no faster than the rate of increase of export earnings. Thus the future contracting of loans will depend primarily on export expansion.

Aid Requirements for the Fourth Five-Year Plan

22. The external resources required for implementing the Fourth Plan development expenditure of Rs. 75,000 million ($ 15,750 million) are estimated of Rs. 22,000 million ($ 4620 million). The composition of these resources together with the corresponding estimated actuals for the Third Plan, is shown in the following table :

TABLE 6

Requirements of External Resources, 1970—75.

(Rs. Million)

	Third Plan	Fourth Plan
1. Project Loans and Grants	6,775	10,000
2. Indus/Tarbela Assistance	1,976	1,600
3. Water Development and Flood Control Programme	—	700
4. Commodity Loans and Grants	3,958	6,000
5. Technical Assistance	350	500
6. Foreign Private Investment	529	700
7. U.S. PL-480 Assistance	2,325	2,500
Total	15,913	22,000

23. To protect the annual growth target of 6.5 per cent, the net transfer of foreign resources in absolute terms needs to be stabilized at least at the current level. However, because of the urgent need for accelerating development in East Pakistan and other less developed areas, and to meet the demand of the social sectors, more aid will be needed and on softer terms Whereas the Fourth Plan size is 63 per cent higher than that of the Third,the gross inflow of foreign assistance is only 45 per cent higher. The net inflow will be only 13 per cent higher than the net flow during the Third Plan period. The contribution of gross foreign assistance in financing development will decrease from 34.2 per cent in the Third Plan to 29.3 per cent in the Fourth, and on a net basis from 27.4 to 21.3 per cent, thus moving towards the objective of reducing our relative dependence on external resources.

24. The Fourth Plan projects a sharp acceleration in the utilization of external assistance in the initial years, but the aid flow will start declining towards the end of the Plan when increased domestic production of both capital goods and raw materials for capital goods is realized, Compared to the estimated utilization of Rs. 3,307 million ($ 695 million) in 1969-70, the use of foreign resources is projected to increase to Rs. 4,700 million ($ 987 million) in 1972-73, and to decline thereafter to Rs. 4,200 million ($ 862 million), in 1974-75. If the outflow on account of increased debt service is excluded, the corresponding increase between 1969-70 and 1974-75 will be 11.6 per cent as shown in the following table :—

TABLE 7

Contribution of Foreign Assistance in Financing Development Expenditure

(Rs. Million)

	1964-65 (Actuals)	1969-70 (Estimated Actuals)	1974-75 (Projections)	Percentage increase in 1974-75 over 1969-70
Gross Foreign Assistance	3,163	3,307	4,200	27.0
Debt Servicing	346	800	1,400	75.2
Net Foreign Assistance	2,817	2,507	2,800	11.6
Development Expenditure	8,340	10,600	17,700	67.0
Gross Assistance as a % of Development Expenditure	37.9	31.2	23.7	—
Net Assistance as a % of Development Expenditure	33.8	23.7	15.8	—

25. The main assumptions regarding some of the important components o foreign resources are explained in the following paragraphs.

Project Assistance

26. The requirement for project assistance, including Tarbela and the Flood Control programme, during the Fourth Plan is estimated at Rs. 12,300 million ($ 2,583 million) which is 40 per cent higher than the actual project assistance disbursements of Rs. 8750 million ($ 1,838 million) during the Third Plan period. The unutilized balance in the project aid pipeline at the beginning of the Fourth Plan is estimated at Rs. 3,600 million ($ 755 million). In addition, pledges for Tarbela and other un-committed pledges from the Consortium and non-Consortium sources of about Rs. 3,500 million ($ 735 million) should be available for commitment and disbursement during the Fourth Plan period. Thus more than 60 per cent of the project aid disbursements required for the Fourth Plan will be covered by assistance already pledged or committed during the Third Plan period.

27. On the basis of the past ratio between commitments and disbursement and assuming a drawing down of the aid pipeline by about Rs. 3,000 million ($ 630 million), fresh commitments of Rs. 9,300 million ($ 1,953 million) or an average of Rs. 1,860 million ($ 390 million) per annum under project assistance will be required to meet the expected year to year disbursements during the Fourth Plan period. It is assumed that improvements in project preparation and a greater mobilization of domestic resources for development will lead to a shortening of the average period over which project aid is fully disbursed. These estimates also include project assistance to be channelled to the private sector through PICIC and IDBP. The volume of such assistance during the Third Plan period is estimated at Rs. 2,500 million ($ 525 million) and is expected to increase to Rs. 3,300 million ($ 693 million) during the Fourth Plan period.

28. The project aid disbursements in the public sector during theFourth Plan will need to register a sharp acceleration . The volume of project assistance utilised by the public sector during the Third Plan period was Rs. 6,250 million ($ 1,313 million). Excluding Indus/Tarbela the utilization in the public sector was about Rs. 4,275 million ($ 898 million). During the Fourth Plan, the public sector requirements including Water Development and Flood Control and Indus/Tarbela are projected at Rs. 9,000 million ($ 1,890 million). Excluding Indus/Tarbela the requirements are estimated at Rs. 7,400 million ($1,554 million) or an increase of 73 per cent over the Third Plan period.

29. A substantial part of project aid to be made available during the Fourth Plan period will be earmarked for projects located in East Pakistan where the development expenditure is projected to increase by 160 per cent Further, a long-term Water Development and Flood Control programme will be initiated during the Plan period in that Province. An allocation of Rs. 1,500 million ($ 315 million) is provided for this purpose outside the Plan.

Non-Project Assistance

30. Non-project assistance requirements during the Fourth Plan are projected at Rs. 6,000 million ($ 1,260 million) which is 50 per cent higher than the actual non-project assistance disbursements of Rs. 3,958 million ($830 million). The undisbursed balance in the non-project aid pipeline at the begining of the Plan period is estimated at Rs. 1,030 million ($ 217 million). On the basis of the past ratio of commitments and disbursements and assuming that the pipeline at the end of the Plan will be almost the same as in the beginning of the Plan period, the fresh aid commitment required would be about $ 1,250 million or an annual average of $ 250 million.

31. Pakistan's requirements of non-project assistance will be relatively high in the initial years, but will start declining toward the end of the Plan when increased domestic production of industrial raw materials and fertilizer is realized.

A commodity assistance programme for the Fourth Plan as compared to the Third Plan is projected on the basis of the following special factors :

(i) There is considerable under-utilised industrial capacity in the country due to lack of raw materials. It is essential, particularly in West Pakstan, to activate this capacity so as to achieve the overall growth target of the Plan, while permitting a major expansion of new production facilities in East Pakistan. The export and saving targets visualized in the Fourth Plan are largely dependent on the increase in production that the country can get out of existing capacity. Unless industrial production is stimulated by drawing on the unused capacity it will become increasingly difficult to divert larger surpluses to the export market, and to mobilize additional savings. The stimulation of industry is also critical for the urban areas, where lagging employment opportunities have led to considerable labour unrest.

have led to considerable labour unrest.

(*ii*) The Fourth Plan visualizes a sizeable transfer of financial and physical resources from West to East Pakistan. It will be difficult for West Pakistan to bring about this transfer while increassing its export by 10 to 12 per cent a year unless the supply of intermediate goods is adequate. Any transfer of financial resources to East Pakistan which is not backed by an associated increase in imports can only result in inflation and will frustrate development efforts.

(*iii*) A recent mission from the World Bank has made an extensive study of the industrial policies and prospects of Pakistan. It has reached the conclusions that Pakistan's long-term comparative advantage lies in the manufacture and export of engineering products. It recognises that the main hindrance to the development of the engineering industries is the lack of raw material imports in suitable quantities and at appropriate prices. It has recommended an additional allocation of $ 125 to $ 140 million for the import of raw materials and components for these industries.

(*iv*) Pakistan will continue to require larger quantities of fertilizers and pesticides to consolidate and accelerate the pace of agricultural production in West Pakistan and to initiate a similar break-through in East Pakistan. Considerable expansion in the domestic production of nitrogenous fertilizer is likely from 1972 onwards, but in the meantime the required quantities of nitrogenous and phosphatic fertilizers will have to be imported.

(*v*) Pakistan is evolving a programme of import liberalization by reducing administrative controls and by permitting larger imports of essential materials, and at the same time rationalising the cost and investment structure in the economy. It will not be able to implement this programme successfully without an adequate cushion of foreign exchage reserves and larger commodity assistance.

(*vi*) With debt servicing liability on the increase, the economy will be subjected to a squeeze on freely usable exchange resources; a larger availability of non-project aid will restore a vital element of flexibility to foreign exchange management, although it will not fully resolve the problem inherent in absorbing tied commodity aid while using freely convertible foreign exchange for making debt service payments.

PL-480 Imports

32. During the Third Plan period, PL-480 assistance is likely to total Rs. 2,325 million. as against the plan estimate of Rs. 4,000 million. About 55 per cent of the PL-480 programme was expected to comprise wheat imports, but reduced aid availability in the earlier period and the attainment of near self-sufficiency in subsequent years in West Pakistan reduced PL-480 wheat imports considerably. Requirements during the Furth Plan will depend upon domestic production and the dictates of price stabilization policy. The tentative estimate is that the total absorption of PL-480 commodities during the Fourth Plan period might not exceed Rs. 2,500 million. The programme will cover some wheat imports during the early years, and imports of commodities such as edible oil, tallow, dry milk, long-staple cotton, butter, oil, feedgrains and other minor items.

Technical Assistance

33. Technical Assistance is currently being provided by agencies of the U.N., U.S. AID, the Ford Foundation and the Colombo Plan countries. In view of the current emphasis on human resource development, a larger flow of technical assistance will be needed during the Fourth Plan period and its requirements are projected at Rs. 500 million.

Foreign Private Investment

34. Foreign aid and foreign private investment are complements rather than substitutes for each other. As the country develops industrially, it will need to apply more advanced technology in such fields as complex engineering and heavy capital goods industries than was required in the past phase of industrialisation, based on simple techniques in cotton and jute industries. To this end, foreign private capital inflow has particular relevance because it will prove to be a more suitable vehicle than official aid for the transfer to Pakistan of advanced management and technology. There are both advantages and disadvantages of using foreign private capital, but on balance, and assuming appropriate national policy for its guidance, its net utility cannot be gainsaid.

35. Foreign private investment during the Third Plan period fell substantially short of Plan projections. In fact, in recent years the impact of net foreign private investment on the balance of payments has been negative, *i.e* the remittance of profits and dividends has been higher than the inflow of resources. Detailed studies are being undertaken to examine the appropriate policy measures to counteract this situation and to secure a larger quantum of foreign investment. In principle, larger foreign private investment should be positively encouraged in selected areas, particularly where new technology and modern management is involved. For the present, estimates of gross foreign private investment are kept at Rs. 700 million, implying a 33 percent increase over that of the Third Plan. This will constitute less than four per cent of the gross external resources projected for the Fourth Five-Year Plan.

36. The use of commercial credits extended by suppliers or contractors and by private financial institutions in foreign countries tends to be a relatively expensive form of external finance., The maturity length of these credits renders them unsuitable for financing long gestation investments ; hence their use in the Fourth Plan period will have to be highly selective and restricted to projects yielding quick returns in foreign exchange earning or saving.

IMPORT PROJECTIONS AND POLICIES

Evaluation

37. From 1959 onwards import policy was gradually freed from direct administrative controls to increase the flow of essential raw materials, spare parts and components, to ensure fuller utilization of installed capacity and to encourage exports. The beneficial effect of this shift from direct to indirect controls was clearly reflected in the production, investment and export levels achieved during the Second Plan period.

38. The liberal import policy received a setback in 1965-66, as a result of the reduced availability of foreign assistance and larger claims on Pakistan's own cash resources on account of defence and food imports. The situation, however, improved in 1966-67, and 66 items were placed on the Free List in the import policy for 1966-67, compared with 31 during 1965-66. Almost all the essential industrial raw materials such as iron and steel, non-ferrous metals, dyes and chemicals, tools and spare parts were included in the Free List, but the operation of the list was subjected to several restrictions.

39. A Working Group on Import Policy, appointed by the Committee on Balance of Payments Problems and Policies, attempted a review of the pattern of imports for the period 1960-61 to 1966-67 and assessed the foreign exchange resources likely to be available till the end of the Third Plan period. A significant advance in rationalizing Pakistan's import policy and exchange rate system was made in the middle of 1967 when policies were adopted to raise the effective prices of imports of raw materials and other intermediate goods and thereby permit a reduction in administrative controls. A "Cash-cum-Bonus" list was introduced in July, 1967 under which an importer had to purchase bonus for half his requirements to get cash licences for the remaining half. This meant an effective surcharge of 80-85 per cent on imports, with a bonus premium of 160-170 per cent. This pattern was extended to 71 items in the Import Policy of January, 1968. In addition, a Price Equalization Surcharge was imposed on most Free List items financed under aid or barter to bring their effective import price to that obtainable under the Cash-cum-Bonus system. With these price adjustments, it became possible to free over 90 per cent of all raw material imports from administrative restrictions in the Import Policy of January, 1968.

40. Only a few raw materials and intermediate goods are still imported at the official rate of exchange. These are petroleum and petroleum products (subject, however, to heavy taxation), food and fertilizer, drugs and medicines. While the changes in import policy created some balance between available resources and potential demand at higher prices, the flow of raw materials was considerably lower than the level necessary for the optimum utilization of industrial capacity.

41. Merchandise imports at the end of the Plan are expected to be barely 10 per cent higher than their level in the base year, giving an annual increase of about two per cent. Within this total, there was a decline in the import of capital goods from Rs. 2,690 million in 1964-65 to Rs. 2,195 million in 1969-70. Imports of consumer goods remained at about the same level at the end of the Plan as the beginning, but this was so only because the country went in for a massive effort at import substitution in foodgrains. In fact, food imports in 1966-67 reached the record figure of Rs. 774 million and were above Rs. 600 million in the following year. By 1969-70, food imports were brought down to a value of approximately Rs. 362 million.

Import Projections

42. Import requirements for 1974-75 have been estimated with the aid of an input-output table developed in the Planning Commission. In addition, specific projections for particular items such as steel, fertilizer, petroleum products, pesticides, etc., were made by the Ministries and other agencies concerned and to that extent the results of the above analysis were modified. The merchandise import projections for 1974-75, together with the estimates for 1969-70 are given below :

TABLE 8

Merchandise Imports, 1969-70 and 1974-75

(Rs. Million)

Item	1969-70 Estimates	1974-75 Projections
1. Foodgrains	362	*Nil.*
2. Other agricultural products	167	220
3. Processed food and beverages	264	350
4. Other consumer goods	334	450
5. Fertilizer	278	150
6. Chemicals	520	520
7. Fuels and minerals	455	620
8. Steel	742	1,970
9. Machinery	1,763	2,200
10. Other engineering goods	422	560
Total	5,307	7,040

43. The growth in total merchandise imports has been projected at 5.8 per cent a year. The components of this increase will themselves grow at widely divergent rates. Imports of capital goods have been projected to increase by 4.4 per cent per year, assuming that fifty per cent of total requirements of capital goods will be domestically produced by the end of the Plan. Consumer goods imports (including foodgrains) will be stabilized at the present level. In line with the Fourth Plan policy of emphasizing import-substitution in the capital goods sector, imports of iron and steel are projected to grow at 22 per cent a year. This provision is made in view of the possibility that the steel mill in West Pakistan may not be in operation before the end of the Plan or that its production may commence towards the end of the period. In fact, the growth of imports of raw materials will, in line with the Plan strategy, be the fastest of all the major heads. Raw material imports are projected to grow 10.4 per cent annually during the Fourth Plan. Fertilizer imports will tail off, as domestic production rises to meet the total projected demand. However, a small provision has been made even in 1974-75 to allow for some unforeseen variations in demand or production.

Regional Balance of Payments

44. In line with the Plan's objective of bringing about a sharp acceleration in the rate of investment in East Pakistan, the balance of payments strategy will provide for a corresponding acceleration of imports into East Pakistan. Since the increase in the country's total resources, from exports and the net flow of external resources, would permit an annual increase of about 6 per cent in imports, the proposed acceleration of imports into East Pakistan will necessitate severe restraints on imports into West Pakistan. This would imply a varying balance of payments pattern for the two regions. In East Pakistan the rate of increase in imports is likely to be much faster than that of gross regional product and of regional exports, whereas in West Pakistan, the increase in imports will be slower than the increase in West Pakistan's exports or its regional product.

45. The policy implications of the proposed balance of payments strategy have yet to be worked out in detail, but its success will depend on at least two important factors. Firstly, at least two-thirds of the fresh pledges of projects aid will have to be committed to projects in East Pakistan, and secondly the inter-wing trade gap will have to be increased from about Rs. 500 million in 1969-70 to about Rs. 1,000 million in 1974-75. This, in turn, will require the availability of adequate non-project assistance in West Pakistan and appropriate investment policies in East Pakistan to facilitate larger exports from West to East Pakistan.

IMPORT POLICIES

46. The main objectives of the Import Policy for the Fourth Plan will be :

(*a*) to maximize industrial production, sustain investment levels and encourage exports; and

(*b*) to reflect economic prices of imports so that import substitution is stimulated, and the gap between potential demand for imported goods and the available resources is kept within manageable limits.

47. While the aim will be to liberalize the policy as far as possible, it must be recognised that in the foreseeable future foreign exchange resources will remain a major constraint for the economy. Within the limits of this constraint, the incidence of these direct controls will be minimised and the allocation of imports will be left increasingly to the market. The objectives of the import policy will be to allow greater access to the small and medium importer, rationalize the existing system of protection to industries, and the relative price between raw materials and capital goods. A major aim will be to increase the import of raw materials, to ensure a fuller utilization of installed capacity and to achieve greater self-sufficiency in certain key sectors such as food, fertilizer, steel, engineering and defence industries.

48. Balance of Payments for the Third and projections for the Fourth Plan are given below :—

TABLE 9

Estimated Balance of Payments, 1965-70

(Rs. Million)

	1965-66	1966-67	1967-68	1968-69	1969-70	Total (1965-70)
A. Payments.						
1. Merchandise ..	4,149	5,228	5,115	4,621	5,307	24,420
2. Invisibles	1,350	1,400	1,400	1,500	1,600	7,250
3. Debt Servicing ..	411	516	711	732	800	3,170
Total ..	5,910	7,144	7,226	6,853	7,707	34,840
B. Financing.						
1. Own Earnings ..	3,415	3,485	3,651	4,200	4,250	19,001
2. Foreign Resources ..	2,778	3,242	3,491	3,095	3,307	15,913
3. Changes in Reserves and Errors and Omissions	—283	417	84	—442	150	—74
Total ..	5,910	7,144	7,226	6,853	7,707	34,840

TABLE 10

Balance of Payments Projections, 1970-75

(Rs. Million)

	1970-71	1971-72	1972-73	1973-74	1974-75	Total 1970-75
A. Payments.						
1. Merchandise	6,060	6,650	7,080	7,140	7,040	33,970
2. Invisibles ..	1,650	1,750	1,850	1,950	2,150	9,350
3 Debt Servicing ..	1,000	1,100	1,200	1,300	1,400	6,000
Total ..	8,710	9,500	10,130	10,390	10,590	49,320
B. Financing.						
1. Own Earnings ..	4,610	5,000	5,430	5,890	6,390	27,32
2. Foreign Resources ..	4,100	4,500	4,700	4,500	4,200	22,00
Total ..	8,710	9,500	10,130	10,390	10,590	49,320

Appendix

COMMODITY-WISE EXPORT PROJECTIONS FOR THE FOURTH PLAN

Raw Jute

Taking into account the projected target for the production of raw jute, and the requirements of the jute manufacturing industry, a slight decline might occur in the earnings from raw jute. It should, however, be possible to expand jute acreage faster than estimated at present. Studies have shown that the acreage under jute is very significantly influenced by the ratio of jute to rice prices prevailing at the time of the previous harvest. The high rice prices in recent years have put considerable pressure to move from jute cultivation to rice. Given a policy that will improve the price ratio in favour of jute, one may expect a sizeable enlargement of the jute acreage and consequently a larger production. A reduction in the export price of jute should enable a larger quantity to be disposed of and to enable Pakittan to meet competition. The current projections indicate a fall in earnings from Rs. 780 million in 1969-70 to about Rs. 670 million in 1974-75.

Jute Manufactures

The main strategy in the Fourth Plan will be to shift production into manufactures with a higher amount of value-added. Thus, the increase in exports from sacking might be negligible. Hessain is expected to grow by about 10 per cent annually while earnings from broadloom products, such as carpet-backing have been projected to grow at a much faster rate.

Raw Cotton

Earnings from raw cotton are projected to increase at an annual rate of three per cent, from Rs. 215 million in 1969-70 to Rs. 250 million in 1974-75 . The main emphasis of the cotton strategy will be to increase the production of the longer staple varieties.

Cotton Manufactures

Again, the emphasis is on products with a higher value-added, *i.e.*, cloth, the export earnings from which are projected to grow at 10.8 per cent annually compared with 5.4 per cent for yarn. The relative growth rates can, of course, be altered futher by changing the relative incentives to these commodities. A large part of the export of yarn now goes to countries which compete with Pakistani cloth in third markets. Under the existing U.K. system of quotas for each exporting country this may not have been important, but given the possibility of the removal of these controls it is imperative that we do not provide yarn to our competitors at cheaper prices than to our own cloth manufacturers. Earnings from yarn and cloth are projected to rise from Rs. 270 million each to Rs. 350 and Rs. 450 million respectively between the base and end years of the Plan.

Rice

Exports of IRRI rice are projected at Rs. 200 million. This growth will not be smooth, but rather, is expected to come in the later years of the Fourth Plan, after an exportable surplus has been created and East Pakistan has attained food self-sufficiency.

Some increase from the level of 1969-70 is also expected in the export of Basmati. Again, the increase could be larger if the Dwarf Basmati is successfully cultivated, and if active marketing measures are taken to increase the acceptance of this quality of rice in European markets. It is estimated that by 1974-75 export earnings from rice will be Rs. 300 million.

Leather and Leather Products

The sharp growth in earnings from tanned leather and leather products is a reflection of the coutry's strategy of reducing its traditional export of raw hides and skins and exporting them in a form which has a higher component of value added. The logical evolution of this strategy would be to increase the emphasis on leather products at the expense of tanned leather. Earnings from tanned leather and leather products are estimated to rise from about Rs. 180 million in 1969-70 to Rs. 290 million in 1974-75. The estimate for the Fourth Plan thus represents a conservative projections on the past trend.

Minor Exports

An increase of just over 5 per cent per annum is projected for minor primary products and of 15 percent per annum for the other manufactures. The details are shown below :

MINOR PRIMARY AND MANUFACTURED EXPORTS DURING THE FOURTH PLAN

(Rs. Million)

Item	1969-70 (Estimate)	1974-75 (Target)	Annual Grouth Rate .. (Per cent)
A. **Minor Primary Exports :**			
Tobacco	20	50	20.0
Fruits and Vegetables	11	22	15.0
Fish	87	125	7.5
Raw wool	26	26	Nil.
Cotton Waste	13	13	Nil.
Crude Fertilizers	9	9	Nil.
All Others	104	105	Nil
Total	270	350	5.3
B. **Minor Manufactured Exports :**			
Leather and Leather Products.	180	290	10.0
Footwear	24	60	20.0
Sports Goods	29	45	9.2
Cement	20	30	8.5
Chemicals	13	30	18.2
Paints and Varnishes	6	15	20.0
All others	278	650	18.5
Total	550	1120	15.3

CHAPTER 6

PRIVATE INVESTMENT

Pakistan has a mixed economy with a large part of the production activity in the private sector. Agricultural production is carried out entirely by private enterprise. In the industrial sector the major portion of value added originates from the private sector. Among the service sectors, insurance, banking, whole-sale and retail trade are almost exclusively run by the private sector. In import and export trade, the Trading Corporation of Pakistan has obtained a relatively small share of the total trade which was until recently a private sector preserve. In the case of foodgrains, the Government only acts as a moderator of market forces. Fertilizer import under aid arrangements is handled by the public sector agencies but its actual distribution in West Pakistan is carried on by the private sector. In transport and communications (services which were developed and run by the Government) private sector has carved an important share for itself in road and inland water transport. Shipping and air transport are carried on largely by mixed public-private enterprise.

2. With this background of economic organization, it may appear surprising that the main emphasis in planning in Pakistan has been on the public sector. Planning instruments for the private sector *i.e.*, investment schedules have only covered large-scale industrial sub-sector. Even this is of recent origin. The first attempt at comprehensive modern planning under the First Five-Year Plan, in fact, reduced the private sector to the status of a residual claimant of real resources. Private investment declined during this period compared to the preceding five-year period. During the Second Plan, the private sector strategy involved the setting up of an incentive mechanism sufficiently attractive to obtain a high investment response and evolution of an institutional framework for channelling real resources to the private sector to translate investment demand into physical investment. The absence of detailed and restrictive planning for the private sector combined with very powerful incentives and sizeable credit availability had the advantage of turning the private sector into a dynamic force. However, there was very little attention paid to the quality of investment, efficiency in the use of resources and consistency of private sector development with social goals. These factors laid a number of problems in store for the future.

3. During the Third Plan, as the conflict between pursuit of social objectives and maintenance of powerful incentives for private investment became obvious, many policy shifts were made. These were, however, directed against the specific problem of concentration of economic power, rather than precise formulation of a clear strategy for broad-basing the sources of saving and investment in the private sector.

4. For the Fourth Plan, it is imperative to look deeper into the behaviour of private sector and to start the process of integrating the private sector more adequately into overall national planning. Considerable work needs to be done for evolving sectoral plans and policies for private investmnet as part of a strategy for balanced and healthy development of the areas of the economy primarily run by private enterprise. This should be integrated in the framework of overall national objectives and priorities. A framework has to be evolved for the functioning of private enterprise. While there would be continuing debate on the role of the private sector, including the possibility of nationalisation of certain activities, the ultimate shape would depend upon the political complexion of the new Government. However, in any case, it is necessary to start

defining the social parameters within which private sector would be allowed to function. This framework would be necessary even with a large degree of nationalization, because under any system, some role would have to be assigned to private initiative.

5. Planning for the private sector need not imply detailed planning which is in practice for the public sector. It does, however, involve management of key inputs in line with set targets, proper husbanding of credit availability for private activity and a better coordination of all the policies which affect the private sector. While the task of allocating resources to various types of investment may have to be left to market forces and relative profitability, market signals should be so adjusted as to be in line with national priorities. The overall profitability of private enterprise should be within the limits of social acceptability to avoid tensions and bitterness, even if it means a slower expansion of private enterprise than in the past.

6. Knowledge about the private sector so far is quite inadequate. With the problems raised by concentration of economic power and the consequent attempt to look more closely into the problems of the private sector, there has been considerable improvement in the flow of data and its meaningful organization. However, enough is still not known to allow movement with confidence. Thus, only the broad framework of a plan for the private sector can be conceived. Gap would have to be filled, as some of the research which is necessary is carried out and results become available.

7. So far even the total magnitude of private fixed investment had been derived indirectly from available data on the use of cement, steel and machinery. In the last couple of years, the Central Statistical Office has completed a study of physical investment in the economy which has now been firmed up. This also gives a sectoral break-up of investment in the public and private sectors. Sectoral figures still leave much to be desired and need to be reviewed in the light of the information regarding physical inputs and financial flows. This work is being carried out. In the meantime, the data need to be used with some caution. Investment in inventories is not yet measured and the saving rates are difficult to determine. Financing picture is not yet complete. A flow of funds analysis was carried out in the State Bank of Pakistan with the help of Planning Commission and C.S.O. for the year 1967-68. The results of this study have helped in an understanding of the financing mechanism of the private sector. Such analysis is, however, needed on a continuing basis to give an indication of the movement of different elements. The financing picture of investment in the manufacturing sector is becoming clear as a result of the work done by the financial institutions. Very little information is available about other areas, where bulk of financing comes presumably from " own retained earnings ".

8. In this Chapter, an attempt has been made to evaluate the experience during the Third Five-Year Plan in private investment, to identify problem areas which need attention and to evolve targets and broad outlines of a strategy for the Fourth Plan.

Private Investment during Third Plan

9. The targets for private investment for the Third Plan were set in the light of the Second Plan experience. Against a target of Rs. 8,380 million, actual private investment during the Second Plan was Rs. 13,680 million in current prices, showing an excess of 63 per cent. Private investment increased by three times over this period.

10. For the Third Plan, private investment target was fixed at Rs. 22,000 million in a total Plan of Rs. 52,000 million. The share of the private sector was thus 42 per cent against 44 per cent realized during the Second Plan. The annual rate of acceleration in the level of private investment assumed for the realization of this target was 11 per cent. The estimated private investment figure for 1964-65 was Rs. 3,181 million. It was assumed that it would rise to Rs. 5,200 million by 1969-70.

11. Sector-wise distribution of investment targets indicated that 38 per cent of investment was to be in the manufacturing sector and roughly 18 per cent each in Agriculture, Transport and Communications and Housing. A specific target for the Third Plan was to raise the level of private investment in East Pakistan to approach that in West Pakistan.

12. Subsequent studies show that the level of private investment was, in fact, significantly larger than earlier estimates for 1964-65. The estimated figure of Rs. 3,181 million used in the Third Plan document was raised to Rs. 3,440 million in the Final Evaluation of the Second Plan. The latest estimates of C.S.O. indicate private fixed investment of Rs. 4,198 million in 1964-65. On the basis of acceleration implicit in Third Plan targets for private investment, the revised bench-mark would have resulted in a private investment target of Rs. 28,500 million. It is against this notional target of total private investment that the performance of private investment in the Third Plan should be evaluated.

13. Actual investment during the Third Five-Year Plan is expected to reach quite close to the financial target of Rs. 22,000 million, but shows a shortfall of roughly 24 per cent compared with the figure of Rs. 28,500 million. Looking at it in another way, the increase is from Rs. 4,198 million in 1964-65 to an estimate of Rs. 4,300 million for 1969-70. The climate for private investment deteriorated towards the end of the Plan period so that in the final year investment level declined even in current prices. The growth in private investment over the Third Plan period is thus likely to be less than one per cent per annum in current prices. As the indicators point to a price increase of more than 20 per cent over this period, these figures imply a substantial deceleration in real private investment.

14. Private fixed investment declined as a proportion of GNP from 8.6 per cent in 1964-65 to 5.5 per cent in 1969-70. The year-wise details are given in Table 1 below:—

TABLE 1

Private Fixed Investment

(Rs. Million)

Period	Private Fixed Investment	GNP (in current market prices)	Private Investment as percentage of GNP
1964-65	4,198	48,616	8.6
1965-66	3,979	53,037	7.5
1966-67	4,203	62,411	6.7
1967-68	4,472	66,082	6.8
1968-69 (Provisional)	4,562	72,000	6.3
1969-70 (Estimate)	4,300	78,600	5.5

This, of course, does not take into account the investment in inventories accumulated by the private sector, which would probably modify the above conclusions to a certain extent.

15. Sectoral distribution of private investment during the Third Plan indicates that investment in agriculture was unchanged in current prices; in industry the increase was roughly in line with the rise in price level; there was a substantial decline in investment in the transport sector; the only substantial increase was in the housing sector. This picture is in line with general economic trends. Restrictions on the import of trucks and components is mainly responsible for a sharp decline in transport sector. This is explained by a shortfall in non-project assistance, which was increasingly used for fertilizer imports and other agricultural inputs. Besides, there are indications that investment in housing mainly went to luxury housing. Thus, the composition of investment was also not in line with the Plan projections.

16. Regional distribution of private investment indicates considerable imbalance. The Third Plan had postulated a rapid increase in private investment in East Pakistan. The target of Rs. 11,000 million for private investment in each wing was set on the basis of very poor knowledge about actual behaviour of private investment in the Second Plan. The Third Plan had started with the assumption that East Pakistan was already obtaining one third of total private investment. In actual fact, as later estimates showed, East Pakistan's share at the end of the Second Plan was only 23 per cent. From this to raise the share of East Pakistan to 50 per cent even by the end of the Third Plan would have posed very difficult problems. The target to equalize private investment level in the two wings for the period of five years was quite unrealistic.

17. In any case, the only chance of raising the share of East Pakistan in private investment to equality with West Pakistan in the Third Plan depended upon an early start. Very sharp adjustments in policy were needed quite early to prepare the ground on the basis of which improvement in ratio could be expected towards the latter part of the Plan.

18. The needed policy adjustments for providing incentives in favour of East Pakistan were delayed by the war in 1965 and the disruption in aid flows. The economy was being required to make a difficult adjustment to reduced aid flows. Consequently, policies for the private sector discouraged investment in activities which the private sector had found traditionally more profitable.

19. Two Committees were set up (one by CIPCOC and one by the National Assembly) to examine the causes of slow rate of capital formation in East Pakistan and to recommend measures to improve the situation. The House Committee Report (which also drew upon the recommendations of CIPCOC) was nearing finalization in 1969 when the political situation changed the entire outlook.

20. Some measures were taken, in any case, to encourage larger private investment in East Pakistan. These included longer tax-holiday and lower rates of duty on capital goods in East Pakistan. The Budget for 1969-70 strengthened these measures. Even more powerful was the impact of Government directive to financial institutions to start with a notional allocation of loans on the basis of 50 per cent for East Pakistan. PICIC and IDBP followed aggressive policies and report considerable improvement in the ratio of loans sanctioned (not yet disbursed) for East Pakistan. This is a hopeful sign for the future. Disbursements would have to catch up with sanctions with a time-lag. PICIC and IDBP experience indicates that there is a considerable increase in the number of potential entrepreneurs in East Pakistan. Since, it was felt that a major cause for the slow growth of private enterprise in East Pakistan was the existence of an equity gap, an Equity Participation Fund was set up by the

Government in January 1970 to provide a part of the equity finance to new entrants in the industrial field. This should help speed up utilization of PICIC and IDBP loans in East Pakistan.

21. Most of the recommendations on which consensus had been reached in the House Committee have already been implemented. It, however, appeared by the end of the Third Plan that the effort to strengthen the incentive mechanism in East Pakistan and the less developed areas of West Pakistan would have to continue for dispersing the benefits of development more widely. Efforts are also needed for encouraging investment in sectors other than large-scale industry which have shown very little improvement in East Pakistan. The regional distribution of private investment is given in Table 2 below:—

TABLE 2

Private Fixed Investment in Current Prices by Regions

(Rs. Million)

Period	East Pakistan	West Pakistan	Per cent East Pakistan	Per cent West Pakistan
1965-66	945.6	2,984.7	24	76
1966-67	1,033.3	3,133.0	25	75
1967-68	1,111.2	3,317.0	25	75
1968-69 (Provisional)	1,153.3	3,367.9	26	74
1969-70 (Estimate)	1,200.0	3,100.0	28	72
Total (1965-70)	5,443.4	15,902.6	26	74

As Table 2 shows, private investment in East Pakistan totalled Rs. 5,443 million during the Third Plan. Corresponding investment in West Pakistan is almost three times. The ratio has moved only moderately from 23 per cent for East Pakistan in 1964-65 to 28 per cent in 1969-70.

Strategy for the Private Sector

22. Development strategy in relation to private investment would have to be radically different in the Fourth Plan. In the past, the strategy was based essentially on the premise that capital is shy and that enterprise needs to be brought up with the help of special incentives in the form of subsidies, protection and tax concessions. Thus a powerful and effective system of incentives was evolved over the years and within the given framework, private enterprise was left free to exercise its options with a view to maximizing its rate of return. The system produced results and has been responsible for a very high rate of industrialization. At times, the response in terms of investment demand was more than what the country could match in terms of availability of real resources. Thus, realized investment in industry was generally below the level of investment demand registered.

23. However, the cost of development under this strategy for the private sector continued to rise. The cost is to be measured in terms of the maldistribution of income in the economy, concentration of ownership and economic power and growing social tensions. Essentially, the protection of infant industries, which are at times quite inefficient, implies that consumers have to pay high prices. Tax concessions to industry mean that others have to bear a larger burden of taxation. Provision of foreign exchange at a low effective rate to industrial investments

gives resources to them at the cost of agricultural producers of export commodities. In a number of cases, the profits earned by industrial investors were not profits of efficiency but merely a transfer from other sectors of the economy through high prices. This transfer mechanism was justified in the early stages of development but is placing an intolerable burden on the rest of the society as the size of the industrial sector grows. Concentration of ownership and absence of sufficient degree of competition which could exercise pressures for increasing efficiency compounded the problem.

24. Special measures were indicated in the Third Plan to rectify the situation. Some of these have already been implemented. However, the concern over the problem of concentration of wealth grew towards the end of the Plan period and a sense of greater urgency developed to move speedily. This was reflected in the Socio-Economic Objectives of the Fourth Plan. The process of reform was quickened with the assumption of power by the Martial Law Administration. Special policies were announced for regulating labour-management relations and for curbing the growth of monopoly power. Such *ad hoc* measures, however, relate to the correction of excesses arising from a system which is basically inequitous and in some cases the corrective measures may go too far and may inhibit enterprise especially among the potential new entrants who provide the only hope for broad-basing the system. It is, therefore, necessary to conceive a comprehensive change in the system. Some elements of a new strategy have emerged in practical measures adopted by the Government. The process would have to be carried further in the Fourth Plan to make it more comprehensive.

Basic Approach to Private Enterprise

25. The first element of the new strategy is the recognition that over the years we have now developed an aggressive and dynamic private sector, quick to respond to profit incentives and capable of setting up and running large industrial business and service enterprises. Apart from the established and the experienced, there is a sizable class of potential new entrants who are being attracted by the demonstrated success of the others. The incentive mechanism is no longer needed on a general basis, but more selectively for correcting regional imbalances and reducing the handicaps from which new entrants suffer.

26. Secondly, it is important to realize that the nation as a whole is not prepared to subsidize and protect inefficient industries, merely for the sake of industrialization. The size of the industrial sector is relatively large and the total burden of protection on such a large scale is going to be beyond the endurance of consumers. The distortion being caused in income distribution and ownership of wealth as a result of protection and concessions to industry is intolerable. The older and more established industries have to acquire the level of efficiency where they would need a minimum of special incentives and protection. They should move to the group on which the burden of the cost of protecting new industries can be partially thrown.

27. A combination of the two considerations mentioned above leads to the conclusion that efficiency and competition should be the key-note of Fourth Plan strategy for the private sector. Since the private sector is, and would continue to be, the dominant force in the forseeable future in the production structure of Pakistan, private sector will be required to play a dynamic role in the overall growth process. So long as this role is based on the generation of new resources by the efforts of the private sector and does not add to the inequalities in income, it is a desirable contribution. A thorough review of the entire incentive mechanism and protection policy should be carried out, with a view to progressively increasing the pressure on the private sector to be much more cost-conscious. The mere existence of profits in a protected market

is not sufficient evidence of efficiency. Profits of protection should be replaced by profits of efficiency. Expansion and growth of the private sector through reinvestment of such profits would lead to a much healthier development minimizing social tensions. If the size of profits is relatively small and expansion based on this source slows down, this is a necessary cost for a more balanced development in the country.

28. Thirdly, the process of expansion through reinvestment of profits inevitably results in concentration of ownership. Re-investment is undertaken by those who entered the field early. They would grow fast and lead to concentration. Socially the consideration of re-investment becomes a justification for high profits. This was acceptable in the early phase of development. However, this should now be supplemented increasingly by the development of a capital market which would channel household and institutional savings to potential investors both in the form of equity and loan. The institutional framework of the capital market has been considerably strengthened during the Third Plan. A number of new institutions *viz.* N.I.T., I.C.P. and Equity Fund have filled existing gaps in the capital market. These institutions, after overcoming their initial problems, are poised to take much greater responsibility. Policies are being recommended in a subsequent section to increase the resources at the disposal of such institutions which generally assist the new-comers and those who could not otherwise obtain access to financial resources.

29. Fourthly, the new strategy should seek to evolve a stronger positive approach to the question of regional balance in private investment. Considerable emphasis was placed during the Third Plan on improving the investment climate in East Pakistan. In the Fourth Plan, the regional consideration would also have to include a growing concern for location of new industries in the less developed areas of West Pakistan.

30. In the special case of East Pakistan, certain considerations need to be analysed carefully. The incentive mechanism for encouraging private investors to locate their units in East Pakistan is uniformally available to investors from both wings. In practice, since the resources in the form of re-investible earnings are largely available with entrepreneurs based in West Pakistan, differential incentives in favour of East Pakistan have the effect of inducing such entrepreneurs to invest in East Pakistan. It is possible to devise a package of policies that would divert bulk of the reinvestible resources from West to East Pakistan. This is the only sure way of rapidly accelerating private investment in East Pakistan. However, this is bound to create social tensions. In any society, where labour is local and the management and capital are not integrated within the local set up, mutual confidence is difficult to build up.

31. It would, therefore, be necessary to devise a policy which would assure participation of East Pakistanis both in the management and share-ownership. A personnel policy which seeks to employ local talent in key managerial jobs, even when it is not considered ideal on narrower efficiency criteria, would be a highly significant factor in bringing about political acceptance of inter-wing capital movements. An enlightened policy towards the development of a professional managerial class for industrial and service enterprises would be highly desirable in any case. But it is absolutely essential for inter-provincial movements of private capital.

32. At the same time, efforts need to be intensified for the development of sources of capital formation from within East Pakistan. This is not merely a matter of providing incentives. The general climate of profitability can attract investment demand, but this must be backed by command of

adequate resources. The most important element in building up a class of local entrepreneurs would be the availability of credit and equity support. Specialized credit institutions are now functioning on a separate budget for the two provinces. Notionally, an equal allocation of half the funds is made for East Pakistan. It is only if the utilization falls short that balance of the funds is redirected to the other province. The experience of the financing institutions indicated difficulty on the part of small entrepreneurs in finding adequate equity capital. The setting up of an Equity Fund by the Government during the final year of the Third Plan is expected to improve the situation considerably.

33. At present, IDBP is willing to go up to 60 per cent ratio for loan requiring only 40 per cent equity. If 50 per cent of the equity capital can be obtained by sale on the market, under-writing by ICP and/or participation by Equity Fund, the investor is required to have a stake in his own enterprise to the extent of 20 per cent. This is the essential minimum to ensure a keen interest on the part of the sponsors in making the venture a success. Improvement in credit facilities from the banking system which would allow conversion of immovable property and financial assets into liquid loan funds could help meet part of the equity requirements.

34. It must, however, be clearly realized that if a less developed region seeks to develop private investment largely from domestic origin, this is bound to be a slow process. Even with the measures listed above, the process cannot be speeded up sufficiently. Domestic savings cannot grow very fast unless the entrepreneurs are left entirely free to exploit the consumer. A healthy growth of private investment in any less developed province would have to include an element of imported capital. Attitude towards such capital and enterprise would be a decisive factor in speeding up the development of less developed areas.

35. Finally, within the overall strategy indicated above, it would be necessary to define the rules of the game within which private enterprise must establish its relationships with other elements of the society. Private enterprise in a modern industrial society has an inherent tendency to move towards larger-sized units and aggressive expansion leading towards the problem of concentration. Pakistan's experience in this respect is, by no means, unique. Other countries have passed through similar stages and have evolved techniques for containing an excessive tendency towards concentration while maintaining sufficient scope for expansion.

Parameters of Regulating Private Enterprise

36. Four important sets of measures can be identified for defining the framework for healthy and balanced growth of private enterprise in line with national objectives:

(a) Progressive taxation of higher incomes and large concentrations of wealth.

(b) Improvement of legal framework for companies and public accountability of directors.

(c) Avoidance and regulation of monopolistic powers.

(d) Protection of labour.

(a) *Tax Policy*

37. The first important element is the management of tax policy. With progressive income tax, wealth tax and estate duties, it should be possible to achieve a considerable redistribution of income and contain excessive concentration of wealth in the hands of individuals. These elements combined with the Islamic laws of inheritance can play an important role in achieving distributive goals of the society. While we have had a highly progressive income tax throughout this period, and have added other taxes in recent years, collection of taxes has not been commensurate with the growth of private wealth. This was partly due to the deliberate grant of concessions and partly due to loopholes in the Income Tax Law which was basically framed half a century earlier in the context of an entirely different society. Modifications and improvements introduced to meet specific problems could not completely modernize the law and make it an effective instrument of policy. Some shortcomings would inevitably exist in the tax-collection machinery which cannot be isolated from the overall legal and administrative framework of direct taxation. Apart from the legal avoidance of tax, there is evidence of considerable illegal evasion. Declarations of tax-evaded wealth in 1958 and 1969 support the contention that evasion is practised on a large scale. A thorough overhaul of the tax law and strengthening of tax-collection machinery would be needed to bring the effective incidence of tax in line with the intentions of policy-makers. A new income-tax law is being framed and would be effective early in the Fourth Plan period. This should be accompanied by a strengthening of the machinery for administrating direct taxes.

(b) *Company Law and Managing Agency System*

38. Secondly, it is necessary to curb the powers of managing agents and controlling groups which they enjoy at present. The Boards of Directors should be forced to behave as trustees on behalf of all the shareholders and be accountable for their action. Here again, the Company Law which governs the relations of the directors with shareholders was conceived as early as 1913. The Report of the Company Law Commission which proposes a thorough revision of the existing legislation should be implemented as early as possible. A strong Company Law coupled with setting up of the proposed Securities and Exchange Commission would go a long way towards eliminating the existing malpractices in the management of private enterprise and making broad-based ownership a meaningful reality.

39. An important feature of the existing Company Law deserves special mention. The Managing Agency system has been a unique feature of business organization in the Indo-Pak sub-continent. Managing Agency System gives a strong hold on the affairs of the public company to a small group of investors who sponsored the project. This system has out-lived its utility and is an important factor in aggravating the problem of concentration. No amount of wider share distribution would help so long as managing agents retain control of the enterprise. It appears necessary that the managing agency system should be abolished and be replaced by professional management which is fully answerable to shareholders and a representative Board of Directors.

(c) *Anti-Cartel and Monopoly Legislation*

40. The above two are basic instruments for checking undue and unhealthy growth of private enterprise, while leaving wide scope for expansion. These, however, do not meet the problem of monopolies, inter-locking directorates vertical and horizontal integration and cartels. The technological factors favouring large units in various industries tend to narrow the number of enterprises which

can exist in any field. In the developing countries, where the size of the market is small relative to the minimum size of an economic unit, only one or two units can be justified at the outset. Absence of competition provides opportunities to the earlier-comers both to exploit the consumers of their products and to effectively stop others from entering the field when further units may be justified. Some checks have to be exercised by the Government to curb these monopoly powers and to act as an umpire ensuring a fair deal to the elements of society which are likely to be affected. The manner in which this problem has to be tackled may raise controversies but the desirability of laying down some rules of conduct in such cases is established beyond doubt. A draft law entitled Monopolies and Unfair Trade Practices (Control and Prevention) Ordinance 1969 was published by the Government on 28th June 1969 for eliciting public opinion. The law, modified in the light of comments received, was promulgated in January 1970.

(d) *Labour Policy*

41. The final and the most important relationship in the private sector is between the employer and the worker. It is impossible for the private sector to function without a clear definition of its relationship with the labour. In a labour-surplus economy like that of Pakistan, labourers are inherently at a disadvantage in bargaining with the employers for an equitable share of gains from industry. It is, however, possible for particular sections of organized labour to force wage increases in excess of improvements in productivity. It is, therefore, necessary for the Government to define an institutional framework for orderly and just settlement of issues with certain minimum standards laid down. This has been attempted in the new wage policy already announced in July 1969.

42. The above guidelines for regulating the relationship of private enterprise with the rest of the society may appear restrictive. It may be feared that these would have the effect of slowing down the pace of fresh investment. This may be the initial result. However, they are in line with the solutions which other countries have sought for similar problems. The result has generally been a healthier growth of private sector rather than absence of private sector initiative. In fact, from the long-term point of view, private sector should find it more attractive to operate within a framework which is socially acceptable. From the long-term point of view, no sector can maintain its growth while antagonizing and alienating other sections of the society. An acceptable role has to be evolved for the private sector, which can be roughly in line with the discussion above.

43. It is recognized that the pace of private investment growth may not be as rapid in the Fourth Plan as has been in the past. However, positive approach by the small entrepreneurs and credit availability can help bring some growth in investment from the stagnant level at the end of the Third Plan. Estimates and projections for the Fourth Plan have been built on these assumptions, showing modest growth in large scale industrial investment at a rate roughly in line with the growth in GNP. Larger growth is projected in investment in housing and transport sectors, where an investment response can be expected to policy measures which are in line with the objective of wider dispersal of ownership.

Private Sector Investment Programme for the Fourth Plan

44. The allocations for the private sector are essentially indicative and notional. With the exception of large-scale manufacturing, the Government exercises little direct control over the extent and nature of private investment. However,

Government does influence private investment and the direction in which it is channelled through fiscal and commercial policies and financial aid. The sectoral allocations presented in Table 3 below represent a blend of investment that can be expected to take place from a forecast of historical trends and the investment which is desirable to achieve balanced development. These allocations must not be interpreted as upper limits of permissible development. Rather, they are designed to secure minimum socially warranted growth in various sectors. Attempts will be made to tie—in credit and other controllable finances to achieve the pattern and size of the proposed development programme. The policy measures suggested focus attention on the impediments to private investment. The adoption of these policies would be necessary to achieve the proposed targets and ensure healthy and vigorous growth of the private sector.

TABLE 3

Private Investment in the Fourth Plan by Sectors

(Rs. Million)

Sector	1969-70	1974-75	Total Fourth Plan (1970-75)	Percentage Growth Per Annum
Agriculture	550	800	3,400	7.8
Manufacturing, Mining and Quarrying	1,850	2,350	11,000	4.9
Construction, Electricity and Gas	250	350	1,500	7.0
Transport and Communications	500	900	3,500	12.5
Dwellings	700	900	4,000	5.2
Other Services	450	600	2,500	6.0
Total	4,300	5,900	26,000	6.5

45. Throughout the Third Plan period, private sector investment was sluggish and depressed. The rate of growth in current prices was less than one per cent per annum. It appears that in no single year real investment exceeded the quantum reached in 1964-65. However, the exceptional circumstances that held investment stagnant are not likely to recur. This must be borne in mind while assessing the feasibility of the proposed allocations. The proposed allocations indicate a growth rate of 6.5 per cent in private investment compared with a stagnant Third Plan performance. This may appear, on the face of it, rather ambitious. However, it may be recalled that during the Third Plan, private sector investment in traditional directions *viz.*, consumer goods industries etc. was deliberately discouraged. On the other hand, the profitability of new priority industries was not fully established. Policies have been initiated to remove fiscal and other anomalies hindering the progress of capital goods industries. Growth in consumer goods industries is also being planned to meet the expected consumption demand, with particular emphasis on growth of such industries in East Pakistan.

46. Secondly, it is expected that the measures adopted to induce new-comers in the industrial field during the Third Plan would play a more important role in the Fourth Plan. The new institutions of the capital market would be functioning on a stronger basis, after overcoming their initial problems.

47. Thirdly, availability of foreign credits from desired sources was a limiting factor for private investment in the Third Plan. In the final year of the Plan, a deliberate attempt was made to allocate a larger proportion of foreign project assistance to the financial institutions providing loans to the private sector. This policy would be strengthened further in the Fourth Plan. Availability of project loans for the private sector is not likely to prove a significant restraint on private sector investment. This, combined with the functioning of the Equity Participation Fund, would go a long way in activizing the private sector.

48. Fourthly, considerable production capacity has developed within the country in the field of capital goods. Given credit facilities corresponding to what the investors obtain on imported capital goods, considerable increase in private investment can be expected from this source. Unless private investment increases, the capacity in this group of industries cannot be utilized.

49. The sharp acceleration in private investment in the agricultural sector is based on the assumption that the marginal rate of saving out of increases in income over and above the subsistence level would be significantly higher. Nevertheless, special efforts would be required for achieving the proposed acceleration in agriculture particularly in East Pakistan. There is evidence that agricultural investment has been increasing where necessary inputs are available. With an improvement in the supply of inputs, a considerable proportion of additional agricultural incomes can be absorbed by increased investment. In East Pakistan, a strong programme of agricultural credit would be needed to bring forth the projected increase in private investment.

50. The proposed targets for private investment in manufacturing, mining and quarrying are quite conservative. It is apprehended that the climate for private investment which prevailed at the end of the Third Plan period and the investment decisions made at that time would continue to determine the rate of progress in this sector during the first half of the Fourth Plan period. Better performance may be expected during the second half of the Fourth Plan period. The average growth rate for private investment in industry during the Fourth Plan is thus low.

51. The planned acceleration for housing and transport are high and are designed to correct existing imbalances in the investment pattern. The big increase in the Transport Sector is due to the special emphasis being given to the development of inland water transport in East Pakistan. IDBP is earmarking adequate credit to achieve this target. In West Pakistan, growth of urban road transport was limited by a reduced flow of transport equipment and components under aid. Both the need and the saving potential of this sector justify a large programme. Necessary adjustments would have to be made in the import policy and pricing of transport equipment to obtain the full investment potential in this sector. The large allocation for the Housing Sector reflects the deep concern of the Government over the growing shortage in housing. For this purpose, the lending operations of the House Building Finance Corporation will be enhanced substantially and other institutional arrangements are being devised to aid and encourage investment in this sector.

Regional Strategy

52. In the Fourth Plan it is proposed to stimulate the private sector in East Pakiestan while dampening the growth impulses in this sector in West Pakistan. Private investment in East Pakistan is projected to increase at

16.7% per annum against virtually no growth in West Pakistan. This can be seen from the following table:

TABLE 4

Private Investment in the Fourth Plan by Regions

(Rs. Million)

	1969-70	1974-75	Total—Fourth Plan (1970-75)
East Pakistan	1,200	2,600	10,000
West Pakistan	3,100	3,300	16,000
All Pakistan	4,300	5,900	26,000

53. In West Pakistan the dampening of the growth impulses in the private sector will be a natural consequence of the fiscal and monetary policies which have to be adopted in the Fourth Plan. Resources have to be transferred from West to East Pakistan. These resources will be mobilised through increased direct taxation, the burden of which will fall heavily on company incomes and profits. This will make profits smaller and private investment less attractive. It will also reduce the investible surplus with the private sector. The result will be a drastic slowing down in the growth in private investment in West Pakistan.

54. In East Pakistan it is proposed to increase investment in the private sector from Rs. 1200 million in 1969-70 to Rs. 2600 million in 1974-75. This may seem to be an ambitiuos target in the light of recent trends. However, in view of the measures already taken and the policy package announced with the budget of 1970-71 to activate the private sector, this target does not seem at all unrealistic. After all, private investment increased at an annual rate of around 20% in the Second Plan in West Pakistan and there is no reason why this cannot be achieved in East Pakistan in fourth plan.

55. Amongst the measures that have already been taken to accelerate private investment in East Pakistan the more important ones are : differential rates of interest, taxes and import duties in favour of East Pakistan; strengthening of the institutional frame-work; easier availability of credit; the setting up of the Equity Participation Fund; greater availability of foreign credits from traditional sources; and improvement of the infrastructure. The salient features of the already mentioned comprehensive policy package for promoting private investment in East Pakistan and the less developed regions of West Pakistan are :

(*i*) Commercial banks, including National Bank of Pakistan, will be encouraged to hold shares in the Equity Participation Fund and participate in equity investment in less developed regions.

(*ii*) Central government and the State Bank of Pakistan shall formulate programmes, and assist in implementing these, for the speedy development of a capital market in East Pakistan including the Dacca Stock Exchange.

(*iii*) The system of joint ventures between EPIDC/EPSIC and the private entrepreneurs will be extended with greater responsibility of management vesting in the private entrepreneurs selected on business considerations.

(*iv*) The existing arrangements between the large banks and the East Pakistan Small Industries Corporation will be improved and extended in order to effect full implementation of the proposal for the establishment of the Consortium of banks for aiding capital financing of the small industries in East Pakistan.

(*v*) Soft credits from traditional sources will be allocated to the Small Industries Corporations.

(*vi*) As far as possible the debt equity ratio for IDBP/PICIC loans should be 60 : 40 for projects in less developed areas and even 70 : 30 in case of special projects.

(*vii*) Industries set up during the Fourth Five-Year Plan and located in industrial estates established by the Government in the 4-year tax holiday zones will be given further exemption for two years in respect of 50% and 25% of the income respectively of the first and the second year of the extended period. This concession will also be available in similar circumstances in the comparable areas of West Pakistan which enjoy 5-year tax holiday.

(*viii*) The Equity Participation Fund will issue, as and when the need arises, interest free debentures redeemable after 8 years. Companies investing in these debentures will be given tax credit of 50% of their investment in these debentures. While this scheme will secure for the Equity Participation Fund the real benefit of interest free funds, it will also give the investor an average annual tax free return of 12-1/2%. Companies investing in the fresh share capital of the Equity Participation Fund to be raised through public offers will also be eligible for the 50% tax credit.

(*ix*) Preferential terms will be given to less developed regions by development banks both for rupee and external financing.

56. In the Third Plan, the development and implementation of policies to stimulate private investment in East Pakistan was unavoidably delayed. This resulted in a sizable short-fall in implementation of the private sector plan. For the Fourth Plan a good begining has been made by the announcement of a comprehensive policy package in the very first year. This should ensure the fulfilment of the Fourth Plan target of private investment in East Pakistan.

CHAPTER 7

CONSUMPTION PLAN

Introduction

The first three Five-Year Plans have achieved considerable success not only in building the necessary infrastructure for economic development but also in achieving self-sufficiency in most of the essential consumption goods and commodities. With the achievement of these basic goals for development of the economy, a stage has been reached for adding new dimensions to planning objectives and one of the most important of these is consumption planning to ensure improvement in the levels of living for the common man.

2. A consumption plan aims at ensuring the adequate supplies of consumption goods at reasonable prices. Adequacy of supply can be interpreted in two different contexts. First, adequacy of supply implies the availability of goods and commodities demanded by the people for consumption. With the growth of income and population, the level of total demand for various consumption goods and services will increase and the objective of the consumption plan in such a case will be to formulate policies to ensure the availability of these goods and services to meet the increased level of demand. Secondly, adequacy of supply may be understood in relation to some pre-determined level and pattern of consumption. The ojective of a consumption plan of this nature is to determine a desirable minimum level of consumption in relation to some norms and then to frame policies to ensure the availability of these consumption goods. At any rate, the first step for the formulation of a consumption plan is to determine the current level of consumption of the various goods and services which will form the benchmark data for the preparation of the plan. Ideally, a consumption plan should cover all the goods and services that go into the consumption list of an average consumer. But information on all these items is not currently available. As a first exercise in the field of consumption planning, the inadequacy of basic data, therefore, restricts the plan only to some essential commodities covering food and clothing. The goods and commodities selected for inclusion are : cereals (wheat and rice), pulses, meat, fish, milk, vegetables, white sugar, tea, fats and oils and cotton cloth for their importance as consumption items as well as for the ready availability of basic data. Annexure I shows the level of total and *per capita* consumption of these commodities in East and West Pakistan in 1969-70 which provide the benchmarks for future projections.

Projection-type Plan

3. A consumption plan of the first type projects the level of demand for the various goods and services for the target year on the basis of the expected rate of growth of income and population. The Fourth Plan envisages a G.N.P. growth of 43.6 per cent for East Pakistan and 30.7 per cent for West Pakistan over the Fourth Five-Year Plan. Population is estimated to increase by 14.8 per cent in East Pakistan and 14.2 per cent in West Pakistan during this period. With the application of assumed income elasticities of demand and the estimated population growth, consumption demand for 1974-75 have been calculated. Annexure II shows the projected consumption demand for various goods and commodities in 1974-75 for East and West Pakistan. The Fourth Five-Year Plan should aim at

meeting these projected levels of consumption demand by production and net imports. The item-wise position as far as possible on the basis of the data available is discussed below.

Foodgrains

4. *East Pakistan.*—The consumption requirements and the production targets of rice and wheat in 1974-75 are given below:—

(000 tons)

	Consumption requirement	Production		Deficit (—) or surplus (+)
		Gross	Net	
Rice	14,128	15,800	14,220	+92
Wheat	1,397	200	180	—1,217
Total	15,525	16,000	14,400	—1,125

It will be seen that while East Pakistan will have a nominal surplus in respect of rice to the extent of 92 thousand tons, there will be a sizeable deficit in wheat to the extent of 1,217 thousand tons. Thus the net deficit of foodgrains is likely to be 1,125 thousand tons.

5. The deficit calculated above does not take into consideration the additional supply of foodgrains needed to bring down the level of food prices in East Pakistan which is much higher than that in West Pakistan. A consumption plan should make provision for the reduction of prices so that the common man is spared the economic hardship he is facing because of high food prices. Efforts should, therefore, be made to achieve a progressive reduction of food prices in East Pakistan. Relevant data on the correlation between supply and prices are not available; but it is estimated that an additional supply of about 200 thousand tons of rice will be required to reduce rice price by about 10%. The consumption plan over the Fourth Five Year Plan period must aim at reducing rice price at least by 10%. Thus, the total foodgrains deficit of East Pakistan in 1974-75 may be placed at 1,325 thousand tons. This entire deficit could be met by imports from West Pakistan.

6. *West Pakistan.*—The consumption requirements and the availabilities of rice and wheat in 1974-75 are given below :—

(000 tons)

	Consumption requirement	Production		Surplus
		Gross	Net	
Rice	1,778	3,700	3,330	1,552
Wheat	7,637	8,900(*a*)	8,010	373
Total	9,415	12,600	11,340	1,925

(a) Estimated production in 1973-74 which will be available for consumption in 1974-75.

It will be seen that West Pakistan will be surplus in both wheat and rice in 1974-75, rice by about 1,552 thousand tons and wheat by 373 thousand tons. Together, these surpluses are sufficient to cover the foodgrain deficit in East Pakistan and leave an additional 600,000 tons of rice for export abroad. Although East Pakistan would require more of wheat and less of rice than the available surplus in West Pakistan, it is assumed that the substitutability (in fact a preference) of rice for wheat would permit the accommodation of East Pakistan deficit from West Pakistan's surplus.

7. *Pulses*—The consumption requirement and production target of pulses in the two provinces in 1974-75 are shown below :—

(000 tons)

Consumption requirement		Production target (net)		Surplus (+)/Deficit (—)	
East	West	East	West	East	West
288	262	270	270	—18	+8

The table above shows that East Pakistan's production of pulses will fall short of her consumption requirements by about 18 thousand tons; but West Pakistan will have a surplus of about 8 thousand tons. It may be possible to partly meet East Pakistan's deficit from the surplus of West Pakistan. Production of pulses must increase in East Pakistan to meet the additional consumption requirements.

8. *Vegetables* (*including potato*).—The consumption requirements and production targets of vegetables in the two provinces in 1974-75 are shown below :—

Consumption requirement		Production target		Surplus	
East	West	East	West	East	West
3,524	2,719	3,600	2,740	96	21

It appears that both the provinces will be surplus in vegetables. This is, however, the result of projection of consumption requirements for 1974-75 from a low consumption base of 1969-70. As will be seen later, if nutritional requirement of food is to be met adequately, this surplus will turn into a big deficit. However, since consumption habit changes but slowly, it may be possible for East Pakistan to export potato to other countries on a small scale.

9. *Milk, meat and fish.*—No production targets for milk, meat and fish are available and so it is not possible to calculate the expected deficit or surplus in

respect of these commodities. The magnitudes of the required increase in supplies of these commodities in 1974-75 are shown below :—

(000 tons)

	East	West
Milk	394	1,873
Meat	129	83
Fish	269	45

All these additional requirements will have to be met by additional internal production.

10. *White sugar.*—The consumption requirements of sugar in 1974-75 is estimated to be 281 and 535 thousand tons for East and West Pakistan respectively. The current level of production of white sugar in West Pakistan is about 650 thousand tons. Information available suggests that West Pakistan will have surplus of white sugar in 1974-75 as it has now. The current level of production of white sugar in East Pakistan is not sufficient to meet her requirements and production of sugar may not increase substantially in East Pakistan to meet her consumption requirements. It will, therefore, be necessary to import white sugar to East Pakistan from West Pakistan. Even then West Pakistan may have some surplus.

11. *Tea.*—The consumption requirements of tea in East and West Pakistan in 1974-75 are estimated at 98 million lbs., 29 million lbs. in East and 69 million lbs. in West Pakistan. The estimated production in 1974-75 is expected to be 90 million lbs. The deficit of 8 million lbs. will have to be imported.

12. *Fats and oils.*—No estimate of production of fats and oils in 1974-75 is available. It is, therefore, not possible to indicate the exact magnitude of imports of edible oils that will be needed to meet the consumption requirements in that year. It may be possible to increase the production of oilseeds ; but still sizable imports will be necessary to meet the consumption requirements in 1974-75.

13. *Cotton cloth.*—The requirments of East and West Pakistan in 1974-75 are estimated at 1,196 and 1,035 million yards for East and West Pakistan respectively. Internal production will be sufficient to meet this level of consumption. But unless production of cotton cloth is increased, exportable surplus may be reduced which in turn will have serious effects on foreign exchange earnings. This whole problem of supply and demand of cotton cloth needs careful examination.

Weaknesses of a Projection-type Plan

14. It should be pointed out here that a projection type consumption plan will inherently be weak, because, first, the mechanical projection of demand level for a future date is based on a number of assumptions which do not remain valid over time *e.g.*, the base year consumption pattern and behaviour from which the parameters of the projection are derived may undergo fundamental change as a result of changes in income, distribution of income, tastes and habits, age-sex structure of the population etc. In such a case, the projected level of demand for the individual goods and commodities may not conform to realities and as such will not be an appropriate framework for policy decisions. Secondly, such a consumption plan takes little note of the necessity of fashioning consumption to a certain pattern and level which will be more desirable in relation to some basic norms. This is more true

for a plan which covers only some essential items of food and clothing where physical requirements set the basic norms of consumption requirements.

Nutrition-oriented Plan

15. The requirements of food and clothing are basic in the sense that a minimum level of consumption of these commodities are essential to keep the people healthy and fit for economic activities. Food consumption should be sufficient so as to provide the essential nutrient values. A plan for good consumption should avoid mal-nutrition and under-nutrition. Food intake should conform to certain standards so that the physical requirements for nutrients such as calories, protein, vitamins, fats, iron, calcium, niacin etc. may be met. Requirements of these nutrients vary with the variation of climate, economic occupation, age, sex, height and weight of the people etc. Nutrition experts have set approximate standards of nutrient requirements for all these variants. It is not easy to set fixed standards of nutrition requirements for a nation, as the characteristics of the people of the nation change over time. However, nutrition experts of Pakistan have provided some basic standards of food consumption for the two provinces of the country. These are contained in the Report of the Inter-departmental Committee on Nutrition. Some guidance can be obtained from that Report in the determination of an optimum food mix to satisfy the nutrition requirements. The average *per capita* per day consumption requirements of the various food items for East and West Pakistan are given below :—

Commodity	Average requirements per person per day (gram)	
	East	West
Rice	318	74
Wheat	32	296
Pulses	50	30
Vegetables (including potato)	360	300
Fish and meat	58	30
Poultry	6	3
Milk	58	153
Fats and oils	47	40
Fruits	50	50
Sugar	37	52

If these consumption standards are accepted as the optimum mixes of food intake for the people of the two provinces, the total requirement of the various food items for the target year *i.e.*, 1974-75 can be calculated on the basis of the total population of the respective provinces. The total requirements of these food items for East Pakistan and West Pakistan for 1974-75 calculated on this basis are shown in Annexure III. Since no standard physical requirement for cloth has been set anywhere, the requirement for cloth for the year 1974-75 has been kept the same as projected on the basis of income and population growth.

16. It will be interesting to note the differences between the levels of consumption of the various food items that emerge from the projection type plan and

those set by the Inter-departmental Nutrition Committee. The differences are summarised below :—

Level of per capita *per day consumption in* 1974-75 (*gram*)

Commodity	East		West	
	Projection	Nutrition Committee	Projection	Nutrition Committee
Rice	474	318	72	74
Wheat	47	32	311	296
Pulses	10	50	11	30
Vegetables	118	360	111	300
Fish and meat	47	58	19	30
Poultry	—	6	—	3
Milk	36	58	325	153
Fruits	—	50	—	50
Sugar	10	37	22	52

The projection type requirements calculated on the basis of the current consumption behaviour of the people show too much concentration on those items of food which contain carbohydrates and less on those which provide protein and other essential nutrients. Such an unbalanced consumption pattern is not desirable from the point of view of nutrition requirements. The consumption plan should aim at the correction of this pattern for a better and more desirable pattern indicated by the nutrition requirement norms.

Limitations of a Nutrition-oriented Plan

17. Although a consumption plan for food and clothing should ideally be based on considerations of nutrition and physical requirements, there are practical difficulties in adopting a plan of this nature for a limited period of time. The consumption habits and tastes of the people at a particular point of time influence the production activities of the society so completely that it will not be possible to change the production structure in a short period of time. The imbalance in the production structure along with the resource utilisation pattern following from it cannot be changed over-night. Therefore, however much one tries to plan consumption and production in accordance with the dictates of nutrition, it will not be practically possible to implement such plans. It is only with the passage of time, through extensive public relation works that the consumption behaviour of the people can be changed. Apart from such induced changes, with the increase in income and literacy, the people will turn more and more to better quality food. Through this process the desired pattern of food consumption will be established progressively leading to an induced change in the production structure in the economy. For practical reasons and for reasons of social and psychological characteristics of the people, a nutrition-oriented plan cannot be adopted as a framework for a short-term consumption plan.

Conclusion

18. Two alternative approaches to consumption planning for the Fourth Plan have been discussed. Although the nutrition-oriented plan is more desirable yet practical difficulties which are usually beyond the control of the planners limit the usefulness of such a plan as a framework for a short-term consumption plan. Therefore, production and import programming to meet the consumption requirements of the essential consumption goods should be based on a projection-type plan. It needs to be pointed out, however, that suffiicent margin should be kept for nutrition planning in the framework of a projection type plan. A time horizon may also be fixed to achieve the desired level of nutrition sufficiency in consumption planning. However, the projection-type plan given above would have to be considered as the operational part of the consumption plan.

19. The analysis and prescription presented above represents an initial attempt to co-ordinate various policies in production, marketing and export within a framework oriented towards meeting minimum requirements for essential consumer goods. This does not provide the final answer to each problem. No plan for a five year period can provide answers to all policy questions which will be thrown up from time to time. Figures will have to be modified as information becomes available on actual behaviour of consumption with changing incomes and prices. While broad policy directions of the consumption plan would remain valid, Annual Plans will have to frame targets and indicate immediate policy goals more carefully. Price pressures on individual items, emerging during the course of the Plan, would have to be treated as an indication of imbalance between supply and demand, requiring modification of the basic parameters of the consumption plan.

Annexure I

CONSUMPTION OF SOME PRINCIPAL COMMODITIES 1969-70

Item	Total demand (000 tons)			Per capita per annum (lbs)		
	East Pakistan	West Pakistan	Pakistan	East Pakistan	West Pakistan	Pakistan
1. Wheat	1,070	6,194	7,264	33.10	231.63	123.48
2. Rice	10,818	1,442	12,260	334.70	53 93	207 56
3. Pulses (excluding gram)	216	216	432	6.68	8.08	7.31
4. Fats & Oils	208	374	582	6.44	13.99	9.85
5 Milk	680	6,100	6,780	21.04	228.12	114.79
6. Meat	194	213	407	6.00	7.97	6 89
7. Fish	795(a)	120	915	24.60	4.49	15.49
8. Vegetables (including potato)	2,610	2,080	4,690	80.75	77.78	79.40
9. Refined Sugar ..	181	425	606	5.60	15.89	10.26
10. Tea	17 (million lbs)	55 (million lbs)	72 (million lbs)	0.23	0.92	0.54
11. Cotton Cloth ..	786 (million yds)	792 (million yds)	1,578 (million yds)	10.86 (yds)	13.22 (yds)	11.93 (yds)

(a) Excludes subsistence consumption.

Annexure II

PROJECTED LEVELS OF DEMAND IN 1974-75

Item	Total demand ('000' tons)			Per capita per annum (lbs)		
	East Pakistan	West Pakistan	Pakistan	East Pakistan	West Pakistan	Pakistan
1. Wheat ..	1,397	7,637	9,034	37.66	250.10	133.57
2. Rice	14,128	1,778	15,906	380 83	58.23	235.17
3. Pulses (excluding gram)	288	262	550	7.76	8.58	8 13
4. Fats & Oils ..	293	507	800	7.89	16.60	11.83
5. Milk	1,074	7,973	9,047	28 95	261.11	133.76
6. Meat	323	296	619	8.71	9.69	9.15
7. Fish	1,064(a)	165	1,229	28.68	5 40	18.17
8. Vegetables (including potato)	3,524	2,719	6,243	94.99	89.04	92.30
9. Refined Sugar ..	281	535	816	7.57	17.52	12.60
10. Tea	29 (million lbs)	69 (million (lbs)	98 (million lbs)	0.35	1.01	0.65
11. Cotton Cloth ..	1,196 (million yds)	1,035 (million (yds)	2,231 (million yds)	14 39 (yds)	15.13 (yds)	14.73 (yds)

(a) Excludes subsistence consumption.

Annexure III-A

CONSUMPTION REQUIREMENTS IN 1974-75 ON THE BASIS OF NUTRIENT SUFFICIENCY

East Pakistan

Commodity	Average requirements per person per day (grams)	Total requirements in 1974-75 ('000' tons)
1. Rice	318	9,485
2. Wheat	32	954
3. Pulses	50	1,491
4. Vegetables (including potato)	360	10,737
5. Fish & Meat	58	1,730
6. Poultry	6	179
7. Milk	58	1,730
8. Fats and Oils	47	1,402
9. Fruits	50	1,491
10. Sugar	37	1,104
11. Cotton Cloth	—	1,196 million yards

Annexure III-B

CONSUMPTION REQUIREMENTS IN 1974-75 ON THE BASIS OF NUTRIENT SUFFICIENCY

West Pakistan

Commodity	Average requirements per person per day (grams)	Total requirement in 1974-75 ('000' tons)
1. Rice	74	1,817
2. Wheat	296	7,267
3. Pulses	30	736
4. Vegetables (including potato)	300	7,365
5. Fish & Meat	30	736
6. Poultry	3	74
7. Milk	153	3,756
8. Fats and Oils	40	982
9. Fruits	50	1,227
10. Sugar	52	1,277
11. Cotton Cloth	—	1,035 million yds.

CHAPTER 8

MANPOWER AND EMPLOYMENT

The manpower situation in Pakistan has two characteristics: an overall surplus of labour and partial shortages of trained and skilled workers. The surplus problem is due to high population growth. The labour force tends to increase much faster than the capacity of the economy to absorb it even if the economic growth is rapid. The surplus takes the form of underemployment rather than unemployment in the usual sense. This means that although almost the entire labour force is somehow employed, the total amount of work done is far below what it is able and willing to do. The proportion of the labour force recorded as totally unemployed is only a little over one percent but if we add to it the partial unemployment, the equivalent of about a sixth of the labour force represents involuntary idleness.

2. Since absorption of the labour force outside agriculture is limited by the rate and nature of investmnt, most of the additional labour force which cannot be productively absorbed by non-agricultural sectors, will have to remain on the land, adding to agricultural underemployment. West Pakistan with its great agricultural potential, may be able to absorb the additional agricultural labour force at an increasing level of productivity and income per head. But for East Pakistan, where the agricultural population density is already among the highest in the world and where the prospect of increasing the amount of cultivable land is more limited, a major increase of agricultural labour force presents very serious problems if income per head is not to decline.

3 In contrast to the overall surplus of manpower, certain categories of trained and skilled manpower are in short supply. The shortages are more critical in occupations which are of central importance to the process of development. Widespread illiteracy coupled with lack of training facilities of the right kind, particularly for craftsmen and technicians, constitute a weak basis for creating a viable labour force so essential to economic growth.

4. Lack of skill does not necessarily mean lack of formal education (including pre-service training), although the latter serves as an important basis for further development of skill through formal or informal in-service training or simply through work experience. In fact, many categories of educated manpower are at present in surplus in the market and unemployment among educated youth is becoming an increasingly serious problem. Unemployment of educated youth, like unemployment in other categories of labour force, is to a large extent due to excessive growth of population. The large surplus of prospective entrants to the labour force who cannot find employment spills over into the education system. In particular, general education serves as a temporary substitute for employment at low opportunity cost, and often it means only postponment of unemployment. To some extent, however, unemployment among educated youth can be explained by lack of functionality in the education system itself. Thus it is frequently claimed that the present system is not sufficiently adapted to the manpower requirements of the economy. Moreover, there are bottlenecks in the skill formation process which is subsequent to education, *i.e.* the in-service transformation of newly educated manpower into occupationally skilled workers.

5. Overall surplus and shortage of trained and skilled manpower both have a deleterious effect on productivity. Low productivity of labour has two dimensions which can be identified with less working hours than normal in situations of underemployment and low output per working hour due to indadequacies of skill.

6. In the past, the labour force has grown too fast to be productively absorbed in the economy. Only a continued rapid growth in the economy as a whole, with specific emphasis on labour intensive projects and sectors, can ameliorate the situation. There are clear limitations to the degree of improvement that can be achieved over the Fourth Plan period. It is estimated that the Third Plan created job opportunities just enough to match the increase in labour force but could not make any appreciable impression on the backlog of unemployment. Nevertheless this shows that considerable improvement in the unemployment situation resulted from the growth achieved over the Third Plan period.

MANPOWER SITUATION AND FUTURE OUTLOOK

7. Detailed employment impact of the Fourth Plan is not yet available but provisional estimates show that total employment is expected to increase by 7.5 million manyears in the Fourth Plan period as against an increase of 6.5 million in the labour force during the same period. A major part of this increase is likely to be created in the agricultural sector. This will be facilitated by the rapid extension of of new agricultural technology both in East and West Pakistan. The additional employment estimated for the Fourth Plan will not only absorb the additional labour force but will also reduce unemployment (including partial unemployment) from the estimated 7.5 million manyears in 1969-70 to 6.5 million manyears in 1974-75. The creation of additional employment will be a major instrument in the Government's overall social policies. Increasing the number of productively employed workers and taking steps to ensure that these workers share in the benefits of increased production, will help reduce the present inequalities in income.

8. In this context some estimates regarding the size and characteristics of the labour force and a review of the employment situation which have policy implication for employment promotion are presented in the tables appearing at the end of this chapter. The main features of these estimates are briefly indicated in the following paragraphs.

9. As shown in table 1, total labour force increased from 36.7 million in 1965 to 42.3 million in 1970. Thus, the net addition to the labour force between 1965 and 1970 was 5.6 million, of which 3.5 million was in East Pakistan and 2.1 million in West Pakistan. The labour force of Pakistan is expected to increase from an estimated 42.3 million in 1970 to 48.8 million in 1975, *i.e.* by 6.5 million during the Fourth Plan period, shared between East and West Pakisan as 3.9 and 2.6 million respectively.

10. According to table 2, of the additional labour force of 5.6 million during the Third Plan period, 3.3 million was in agriculture and 2.3 million in non-agricultural sectors. The number of workers employed outside agriculture, including the underemployed, increased by 2.2 million from 9.5 million in 1965 to 11.7 million in 1970. The highest increase was in services (725 thousand) followed by mining and manufacturing (686 thousand), commerce (409 thousand), construction (184 thousand), transport and communications (168 thousand) and electricity, gas and water services (17 thousand).

11. The average annual compound rate of labour force growth during 1970-75 will be 2.9% which is somewhat less than the population growth of 3.1%. In relative terms, the labour force in the non-agricultuarl sectors will grow fasterthan that in the agricultural sector (forestry and fishing inclusive). The latter will grow by 2.2% per annum whereas the former will grow by 4.3% with the result that the percentage of labour force engaged in agriculture will decline in an evolution towards a more industrialised and service oriented economy. Numerically, however, the addition to the agricultural labour force will still be higher than the addition to the non-agricultural labour force. Thus, the additional agricultural labour force will be 3.5 million against 3.0 million non-agricultural.

12. The percentage of the wholly unemployed, in the strict sense of not doing any work at all and looking for work, will slightly increase from an estimated 1.1% of labour force in 1970 to 1.2% in 1975. The rising trend is caused by the relative shift towards non-agricultural labour force which traditionally has a higher recorded unemployment ratio than agriculture. According to the Population Census of 1961, only 0.2% was recorded as wholly unemployed in agriculture. as against 3.3% outside agriculture.

13. However, more serious than unemployment is underemployment consisting of persons who are doing some work and looking for more work. There is also the problem of invisible or disguised unemployment and underemployment which refer to persons working full hours at a very low level of productivity. It is known that underemployment is experienced largely in agriculture where it is almost intrinsic in character due to the seasonal fluctuations in activity. As long as agricultural labour force is increasing, as will be the case throughout the Perspective Plan period, agricultural underemployment is likely to grow with it, keeping the percentage of underemployment more or less constant. At any rate, underemployment is a demographic feature which is not likely to change much over a period of only 5 years.

14. Productive employment is a basic employment objective. If overall per capita income is to increase by more than 3% annually, productivity defined as value added per worker, should also increase in all major sectors of the economy. This is so even in agriculture where there is a risk of increasing relative underemployment which would tend to eliminate the effects of improved technology. This means that the increase in value added per hour worked must more than compensate for the possible decline in working hours.

15. Table 3 shows the educational structure of the labour force for the years 1965,1970 and 1975. The increase in first, second and third level labour force was 50 percent, 45 percent and 75 percent respectively during 1965-70. As to the various areas of education within the third level, percent increases were higher in commerce, education, arts & science and engineering than in law, medicine and agriculture.

16. The development during the next five years *i.e.* 1970—75 will be largely determined by the present structure of enrolment. Generally speaking, the trend of growth rates will be similar to that experienced during the Third Plan period. As between levels, the increase will be more at the first and second level than at the third level. Regarding the various areas of education within the third level, whereas the growth in arts & science, engineering, medicine and agriculture will accelerate , it will decelerate in education, law and commerce. Development in other areas of education will, however, remain static.

POLICY OBJECTIVES AND PROGRAMMES

17. Broadly speaking, the objectives of manpower policy are to increase employment, reduce the growth of unemployment and underemployment, to increase labour productivity and to meet the present shortage of and growing demand for skilled manpower . In other words, the aim is to balance supply and demand, overall as well as for specific categories of manpower. Moreover, the development of manpower resources will be viewed as investment in human capital ultimately aiming at faster economic growth.

18. Towards these ends, manpower policy is essentially a co-ordination of sectoral programmes which have a direct or indirect impact on the manpower situation. The grouping of various policy measures is meant to indicate the implementing agencies of such programmes. The features of main programmes particularly relevant to the development and utilization of manpower resources, are given in the following sectoral description .

Agriculture :

19. There are indications of considerable increase in labour inputs in agriculture in West Pakistan during the Third Plan period. The successful new technologies including increased irrigation through use of tubewells and low lift pimps, combined with biological chemical inputs and new seed varieties proved rather labour intensive. For example, the new seed varieties, Mexi-Pak wheat and Irri rice require considerably higher labour inputs than the indigenous varieties. Due to little technical improvement in agriculture in East Pakistan , the problem of underemployment increased.

20. The agricultural programme for the Fourth Plan will continue to emphasise change towards the new labour intensive seed varieties. Increased use of fertilizers and irrigation facilities will also tend to increase employment in terms of mandays.

21. At present there is a tendency towards farm mechanisation, in both public and the private sectors. If farm mechanisation is encouraged on a large scale , there is a danger that owners of comparatively large holdings would prefer to mechanise the agricultural operations rather than to employ extra labour. This would lead to an undesirable movement of rural labour to urban areas.

22. Recognising this situation, the Central Government set up in September 1968 a Farm Mechanisation Committee for West Pakistan. The Committee, after having examined the various problems concerning mechanisation, has recommended an action programme for 10—15 years for West Pakistan. The Committee is currently engaged in a similar exercise for East Pakistan. The formulation and implementation of programmes and policies for farm mechanisation during the Fourth and subsequent Plan periods will be largely based on the findings of this Committee. It is hoped that expansion of the programme for mechanised farming will be conditional on the study of the impact of mechanisation on replacement of labour. Mechanisation should be introduced when it is complementary to the use of labour or for specific operations which fall in the peak season of labour shortages.

Industry :

23. The Third Plan enunciated the following criteria as a guideline for industrial expansion :

(*i*) contribution to the balance of payments ;

(*ii*) value added and return on capital ; and

(*iii*) employment.

These three ceriterial are often mutually conflicting. Experiencewith previous Plans has shown that it is always difficult to allocate resources on the basis of labour-intensity of projects or to deviate from usual production techniques while simultaneously paying due attention to competitiveness and profitability. Moreover, in Pakistan as in practically all other countries, little has been done to systematically develop labour intensive techniques as alternatives to capital intensive techniques of production. Considerations of this kind have played a minor role in the relative allocation of capital and labour.

24. During the Fourth Plan, employment creation will continue to be an important by-product of industrial expansion, Moreover, fuller utilization of installed capacity and balancing and modernization of existing plants will be given preference to futher expansion,. This means that the incremental labour/capital ratio will be high. In other words, the increase in employment will be high in relation to investment.

25. The industrial programme is most instrumental in determining the future geographical distribution of employment, not only in industry but also in services which grow with industry. The industrial location policy of Pakistan has in the past contained the following main elements :

(*a*) After the initial phase of industrialization between 1948 and 1955, when no serious attempt was made to direct the location of industrial units, the policy was geared mainly to the prevention of industrial activity in the congested centres, with the object of achieving a wide dispersal of industrial units.

(*b*) In the second phase, between 1955 and 1960, the policy was revised to disperse industrial activity into smaller or secondary centres rather than to isolated locations.

(*c*) In the third phase, after 1960, the industrial location policy was refined further by (i) re-emphasizing the rational criteria but subject to the overriding objective of removing economic disparity between East and West Pakistan, and (ii) recognizing the need for special locations for different kinds of industries.

26. The Fourth Plan also recognises the need for an explicit government policy on industrial location and the objectives do not differ much from those of the Second and Third Plans. They will be pursued through various measures, including policies for removing regional economic disparities, policies implicit in the institutional and procedural framework for regulating industrial investment, fiscal policies, programmes to set up industrial estates for large and small-scale industries and policies adopted for the location of public sector enterprises. More emphasis will be given to establish and expand agro-based manufactures and small scale industries in order to reduce congestion in agriculture and absorb the surplus rural labour.

27. Altogether, the industrial location policy will promote a mixed economy in the various regions and a greater variety of employment opportunities. The latter will provide a safeguard against the snowball effect on unemployment of a slumpin any particular branch of industry.

Rural Development and Urban Works Programme :

28. The existence of large numbers of the unemployed and the underemployed, especially in the rural areas of East Pakistan, remains a major social and economic problem. A frontal attack on this problem is proposed through a rapid increase in the expenditure on the Rural Development and Urban Works Programme. While the main emphasis of this programme will be in the rural areas of East Pakistan and in those areas of West Pakistan where the opportunities for agricultural employment are still limited, an increase in the expenditure on an Urban Works Programme is also contemplated. Urban unemployment, while small in comparison to the number of rural underemployed, is increasing. The Urban Works Programme will be aimed at solving this problem.

29. The Works Programme is one of the most effective short and medium term policy tool available to the government for increasing employment. It is highly labour intensive and thus not only reflects the relative availabilities of capital and labour in the economy but also provides a higher level of employment than similar expenditure on other programmes would. The infrastructure created by the Works Programme is an essential input for the projected increase in agricultural production in East Pakistan. Thus it will also indirectly serve to increase employment in agriculture.

Labour Policy and Services :

30. In 1969, the Government announced a new set of minimum wages for unskilled industrial workers. The new wages represent an approximate 50 per cent increase over the previous minimum wage rates. There is every reason to expect that, during the Fourth Plan, the wage rates of those workers not covered by the increase under the new minimum wage legislation- the skilled and semi-skilled workers, government employees, and teachers—will also tend to rise.

31. The overall increase in wages will raise the relative price of labour as compared to capital and will further increasethe tendency towards capital intensive investment. Although a higher wage-bill may be partially offset by increase in productivity, the increased labour cost will tend to reduce the employment potential of a given investment.

32. Capital in the past has been made available at a price which did not reflect its real social cost. Now in order to compensate for the increase in wages, at least partly, the Government through an adjustment in the effectiveexchange rate should increase the price of imported capital so that it reflects its real scarcity value. While the wage policy should aim at continuous improvement in real wages in the face of rapidly growing output and labour productivity, it should also reflect the need to protect a reasonable profit level for industry so as to ensure the further rapid development of the industrial sector which will in the future have to absorb an increasing proportion of the fast increasing labour force.

33. Broadly speaking, the labour services programme will consist of legisla- and administrative measures which besides facilitating smooth adjustment of supply and demand in the labour market, will improve working conditions of workers, safeguard their interests and promote industrial peace through the coopera tion of workers and employers.

Education and Training

34. This refers not only to the Education and Training Programme proper, which is the responsibility of the Central Education Division and Provincial Education Departments, but also the various education and training components of other sectoral programmes, *e.g.*, Agriculture, Health and Labour Services.

35. Certain international comparisons indicate that Pakistan belongs to a group of countries in which second and third level education has developed faster than education at first level. This impression is also supported by actual developments in the 1960's when enrolment at second and third level increased at an annual rate of about 10¼% and 11¼% respectively whereas enrolment at first level (grades I to VIII) grew at only 7½%. The growth of both second and third levels was well above requirements as derived from economic growth during the same period. The excess of availabilities over requirements is reflected in increasing unemployment among the educated youth.

36. The development of a surplus is most evident in general education where the increase in enrolment and graduation has been quite spectacular. But many areas of specialised education, *e.g.*, technology and commerce at second level, have also increased in excess of estimated manpower requirements.

37. Against this background, the future pace of progress with regard to primary education will be accelerated for attaining the goal of universal primary education by 1985. There will also be a considerable expansion in the higher stage of *first* level, *i.e.*, grades VI to VIII. At *second* and *third* levels, the keynote will be consolidation and qualitative improvement rather than quantitative expansion. At both these levels, admission will be selective, at least in government

schools and colleges. In such institutions admission should be determined on the basis of places available in relation to teachers and physical facilities to ensure a minimum standard and quality.

38. Efforts will be made to make the education system more functional. This will be achieved in three different ways : (i) by teaching more vocational subjects within the stream of general education, (ii) by shifting emphasis from arts to science teaching within general education, and (iii) by developing specialised education in broad conformity with manpower requirements.

39. In specialised education, care should be taken to avoid not only shortages but also large surpluses. Technical and other specialised education is generally much more costly than general education and surpluses, therefore, represent a greater waste than in general education.

40. Improved quality and greater functionality of education, as envisaged in the new education programme, will increase the productivity and employability of the school leavers at all levels. It must be realised, however, that the problem of large and increasing unemployment among the educated youth cannot be solved by changes in the education system alone. Howsoever suitable the graduates are for employment, there is a practical limit to how far the economy can productively absorb them.

41. As the objective of universal primary education is achieved, the base for entry into secondary and higher education will also increase. Naturally, unless a rigorous selection process for admission is enforced, the large surplus of prospective entrants to the labour force who cannot find immediate employment, will remain in the education system which will add to unemployment at a later stage. The fundamental long term solution to this problem of underemployment, educated or not, is to bring about a balance between population growth and economic growth.

42. As a matter of fact, various categories of trained and skilled manpower are in short supply. But the system of education and pre-service training is not alone responsible for the production of skills. In many occupations the required specialised skills must be developed after the person has gone through the education system and entered employment.

43. There is a variety of in-service training schemes in the private and public sectors but it is very difficult to get a comprehensive picture of requirements and availabilities. The general impression, however, is that formal in-service training activities are organized on a moderate scale and poorly coordinated in relation to education and pre-service training.

44. The Fourth Plan will pay more attention to in-service training activities, as indicated in the labour services, health and agricultural programmes. The proposed training levy on employers and the setting up of a machinery for administering in-service training activities financed by such a levy, should greatly promote the in-service training programmes, especially the apprenticeship training.

Family Planning

45. The relevance of family planning in the context of manpower planning is evident. It has been already explained that excessive growth of population and consequently the labour force is the basic factor in contributing to the persistent overall surplus and low productivity of manpower as well as certain imbalances in the education system.

46. It is realised that family planning activities today will have no effect on the growth of the labour force during the Fourth Plan period, because of a time-lag of 10-15 years between birth and entry into the labour force. In the long run, family planning may prove to be of vital importance in balancing manpower supply and demand relationships, reducing unemployment and underemployment and increasing labour productivity.

47. Against this background, the family planning programme suggested for the Fourth Plan, is relatively moderate in scale. However, as the Fourth Plan programme envisages a level of expenditure which is substantially higher than that in the Third Plan, it does involve expansion over the rate of spending in 1969-70.

MANPOWER PLANNING

48. A major problem faced by the country has been that of removing the existing deficiencies in manpower planning and evolving an effective approach to this vital aspect of development planning. The Second and Third Plans recognized the deficiencies in the manpower planning and proposed several administrative steps for their solution, which included the establishment of a high level inter-ministry policy making National Manpower Council. The Council which was set up in 1962 has, however, not been able to function effectively. The existing organizational arrangements continue to be very inadequate to deal with the tasks and functions of manpower planning in an effective manner. There are several reasons for this situation. There is still wide dispersal of efforts and energies in the field of manpower planning and development and much of the efforts lack a sense of direction and purpose. The statistical base for manpower planning is poor. There is considerable inconsistency and unreliability in vital data. Existing arrangements for periodical review and assessment of the manpower situation or for follow up programmes in terms of national objectives and targets are also inadequate. The whole technique of manpower planning is new and there is great shortage of professional staff and facilities. New arrangements are therefore required which should be based on a proper appreciation of the functions and shortcomings of the present set-up.

49. During the Third Plan period an attempt has been made to buttress the manpower planning programme under the UNDP/ILO Manpower Planning Project. The U. S. A.I.D. also provided some assistance to East Pakistan under the Skilled Manpower Research Project. Recently the National Commission on Manpower and Education which existed for about one year since August, 1968 has had the effect of focussing attention on the importance ofmanpower development and its correlation to education, assembling and analysing considerable amount of data and initiating certain studies as a basis for programmes for the development and utilization of manpower. But in order to remove the existing inadequacies, there is urgent need to improve the existing set-up for undertaking the relevant functions of manpower planning includig the following :

(*i*) To evolve and determine manpower policies concerned with recruitment, training, use and conservation of manpower resources in cooperation with major agencies concerned either with the production or utilization of manpower

(*ii*) To produce short term and long range operational programmes for the development and utilization of manpower.

(*iii*) To prepare manpower plans at the national and provincial levels for incorporation in Annual, Five Year and Perspective Plans.

(*iv*) To undertake continuous review of manpower situations in various sectors of the ceonomy, identify the imbalances in manpower supply and demand relationships and recommend adjustments and remedial actions by concerned agencies.

(*v*) To develop basic data and statistics for sound manpower planning on a continuing basis and to promote comprehensive research and studies.

50. It is timely that the future set-up of the manpower planning work should receive a thorough appraisal. With the operational responsibility of the manpower and education programme resting with the Provincial Governments, important advantages may accrue from the direct involvement of the provincial Governments with the manpower planning activities and closer coordination of these activities with related government services at the national, regional and local levels. A small but effective unit is, however, needed at the Centre. The organizations for undertaking the foregoing functions should have strategic locations which can elicit the support of the Government at the highest level as well as the support of all the organizations concerned with manpower, education and training policies and programmes and should have proximity to planning organizatiions. Manpower planning being an across-the-board responsibility of the government, no single subject-matter organization can handle it effectively and objectively.

TABLE 1

Labour force (10 *years and over*), *by sex.*

(In millions)

Region/Sex	1965	1970	1975
Pakistan :			
Both sexes	36.7	42.3	47.8
Male	31.9	36.7	42.4
Female	4.8	5.6	6.4
East Pakistan :			
Both sexes	21.2	24.7	28.6
Male	17.9	20.8	24.1
Female	3.3	3.9	4.5
West Pakistan :			
Both sexes	15.5	17.6	20.2
Male	14.0	15.9	18.3
Female	1.5	1.7	1.9

TABLE 2

Labour force, employment and unemployment, by sector of economy

Sector	1964-65	1969-70	1974-75
			(In thousand persons)
Labour force, total	**36,723**	**42,268**	**48,775**
Agriculture, forestry and fishing	26,880	30,162	33,640
Other sectors	9,843	12,106	15,135
Employed and underemployed,[1]) total	**36,333**	**41,796**	**48,200**
Agriculture, forestry and fishing	26,818	30,092	33,564
Mining and manufacturing	3,198	3,884	4,786
Construction	491	675	955
Electricity, gas and water services	50	67	93
Commerce	1,865	2,274	2,806
Transport and communication	689	857	1,088
Services	3,222	3,947	4,908
Wholly unemployed,[2]) total	**390**	**472**	**575**
Agriculture, forestry and fishing	62	70	76
Other sectors	328	402	499
			(In thousand manyears)
Labour force	36,723	42,268	48,775
Employment	29,223	34,768	42,275
Unemployment, whole and partial	7,500	7,500	6,500
Unemployment in percent of labour force	20.4	17.7	13.3

1) Persons doing some work and looking for more work.
2) Persons not doing any work and looking for work.

TABLE 3

Labour force by completed level and area of education.

(In thousands)

Level and area of education	1965	1970	1975
Labour force, total	36,723.0	42,268.0	48,775.0
Nil and below first level	31,571.4	34,517.3	36,953.5
First level[1]	3,997.3	6,024.9	9,200.9
Second level[2]	970.9	1,405.3	2,110.9
Third level[3]	183.3	320.5	509.7
Arts & Science	123.2	214.5	337.2
Education	14.9	27.1	43.6
Law	13.5	18.0	24.7
Commerce	11.4	31.4	57.7
Engineering	7.1	11.6	20.3
Medicine	6.8	9.3	13.5
Agriculture	4.5	6.7	10.8
Others	1.9	1.9	1.9

1) Completed grades 5, 6, 7, 8 or 9.
2) Matriculates and intermediates.
3) Degree holders.

CHAPTER 9

NEW DIRECTIONS IN PLAN IMPLEMENTATION

A plan is ultimately as good as its implementation since it is the actual achievement and not merely the target set or the resources allocated that determine the impact of a Plan on the economy. During the years since World War II, the techniques of economic planning have been developed with considerable sophistication throughout the world. With the application of these techniques, and with the development of statistical services essential for the formulation of economic and social policy, the quality of development plans adopted by most currently developing nations has progressively improved. Unfortunately, the same cannot be said of the implementation of plans, which has consistently fallen short of planned objectives and targets. Despite relatively better performance, Pakistan has been no exception to the general rule.

2. Successful plan implementation undoubtedly depends a great deal upon the quality, realism, and practicability of a plan itself. Nevertheless, even the most well-conceived and soundly-based plans are likely to fail because of substantive lags in the arrangements established for their implementation. The principal reason for this is that while successful planning can be accomplished through a relatively small group of well-trained individuals, the implementation of plans involves the whole administrative structure of the government and the private sector. To secure this involvement in an effective and efficient manner is not easy, since it depends not only on the quality of manpower at different levels but also the quality of all the institutions and relationships that operate in the public and private sectors.

3. The present stage in Pakistan's brief development history is unique in several respects. *First*, two decades of planned development have brought about significant social, cultural, and intellectual changes in the society. Advances in income and "awareness" in particular, though far from spectacular, have sharpened the people's desire for more rapid improvement in living standards, and awakened their consciousness for social and economic justice. Because government has played a prominent role in the development process, its traditional dominant image has heightened the expectations of the people with regard to what the government can or should do for them, and made them increasingly critical and impatient of bureaucratic delays, inefficiency, corruption, and the "distance" between the administrator and the citizen. *Second*, while development has helped alleviate some of the economic problems, it has given rise to a new and more complex set of problems, which call for newer and more sophisticated solutions. The process of planning can no longer be confined to increasing production alone; it must encompass wider social parameters. *Third*, the country stands on the threshold of far-reaching political changes. The two principal elements of these changes are: (a) the acceptance of the demand for maximum Provincial authority; and (b) the dissolution of West Pakistan as a single political and administrative unit. Each of these changes will influence, and require adjustments in, the existing arrangements for the preparation and implementation of development plans.

4. The expected return of representative government will also bring in its wake changes in values and attitudes, and necessitate a careful re-ordering of the nation's priorities and objectives. Efforts will have to be made, for example, to ensure that the fruits of development reach the common man, and result in a visible improvement in the standard of living of the mass of the people. Towards this end, steps will be needed to ensure, *inter alia*, that the profit motive, which has led to such remarkable dynamism in the private

sector in the past, is tempered with a spirit of public and social responsibility. It will also be necessary to evolve ways and means of ensuring genuine participation by the people at large in the process of development which vitally affects their destinies. Nothing can be more inspiring to a people than the feeling of being an integral part of the development process.

5. The governmental machinery, and those who man it, will have to become responsive to the aspirations of the people. The democratic principle will have to be extended to the administrative structure of the country, in order to ensure, above all, an equitable distribution of the opportunities for entry and advancement in public careers. Merit and quality of performance should become the determining criteria for recruitment as well as for promotion. Only thus can the nation be assured of an optimal use of its scarce trained manpower.

6. New directions in Plan implementation call for a totally new concept and can be achieved by a major tansformation in the quality of manpower and in the quality of institutions and systems. The two major objectives of this transformation will be to increase public accountability and efficiency in the government sector and to introduce the concept of social responsibility in the private sector.

The Machinery for Planning

7. During the past three Plan periods, the Central and Provincial planning machinery has been substantially strengthened and streamlined. It should be possible for this process to continue uninterrupted under the Fourth Plan, even though the status, composition, and functions of the central planning machinery *vis-a-vis* the provincial planning departments may have to be redefined in the light of the new Constitution and of the political arrangements to be evolved for the future. In West Pakistan, where four separate Provincial Governments have started functioning from the begining of July, 1970, fresh efforts are also needed to set up effective planning units in the new provinces. This will not be easy especially considering the expected increase in the developmental responsibilities of the provinces under the broader concept of provincial autonomy. Special arrangements need to be made by each provincial government to recruit and train economic and technical staff on an adequate scale, and to collect data and information necessary for effective planning. There will also be problems connected with the division of financial resources, records, equipment, and other assets among the new provinces. Steps are already under way to tackle these various problems but it will be some time before the planning machinery in the new provinces can be built up to a satisfactory level of effectiveness.

8. Since the planning departments of the new provinces were not functioning in time to participate in the initial formulation of the Fourth Plan, the Planning Commission has endeavoured to analyze, as clearly as possible, the impact of the previous three Plans on each area and to identify a broad order of priorities for the new provinces. An effort has been made to provide for adequate flexibility in allocation and policies to permit adjustments for the new provinces through successive Annual Plans.

9. A major objective during the Fourth Plan should be the maximum decentralization of responsibility and authority in all areas bearing upon plan implementation. Some examples of such areas are : formulation of the ADP within approved plan allocations ; preparation and approval of development schemes; and allocation and expenditure of funds. Decentralized decision-making helps the development

planning process in two principal ways : (a) by eliminating unnecessary delays; and (b) by generating a capacity in the provincial and regional units to accept responsibility for making vital decisions whthin their own jurisdictions. Considerable decentralization can be effected even within the existing framework of Centre-Province relationships, and without waiting for the promulgation of the new Constitution. The Provincial Governments, and particularly their planning and implementation machinery, will have to be strengthened and restructured where necessary to cope with these additional burdens. Among other things, the Provincial Planning Departments should set up professionally staffed Public Administration units on the same lines as that established in the central planning commission, so that the administrative aspects of development planning, the importance of which is now fully recognized receive proper specialized attention.

10. Planning can be made truly meaningful only if it goes down to the grassroots. This means that each individual unit of the governmental machinery, and each level of the country's political and administrative structure, should have primary responsibility for the preparation of its development programmes according to its priorities and needs. This not only imparts realism to the planning process and ensures the participation in planning of those who are to benefit directly from it; it also enables the Central and Provincial planning agencies to concentrate primarily on the task of integrating these programmes into a coordinated whole, and on issues of wider economic policy. It is in this context that the creation of effective planning cells in individual ministries and departments of the Central and Provincial Governments, and the strengthening of the various tiers of local councils as the prime instruments of local planning and development, assume crucial importance.

11. Despite the emphasis placed on the decentralization of the planning process in the past, planning units or cells still do not exist, or exist on an inadequate basis, in many ministries and departments of government. At the sub-Provincial levels, the institutions of Basic Democracies were able to make a significant start through the Rural Works Programme, but their performance was uneven and in general they fell considerably short of being effective instruments of local development. As a result of recent developments, these institutions have ceased to function as an electoral college for elections to the office of the President and to the National and Provincial legislatures. This should enable them to devote greater attention to the tasks of local self-government and local development.

12. The BD system has been under detailed critical reappraisal by the Government for sometime past, in the light of the experience gained of its working during the preceding ten years or so. On the basis of this reappraisal, decisions have already been taken in principle: (a) to redesignate the BDs as Local Councils; (b) to extend the elective principle to all tiers of local councils; and (c) to take appropriate measures aimed at strengthening the financial position of the councils. Fresh legislation embodying the detailed future pattern of local government is to be enacted by the various Provincial Governments. In determining the long-term future of the local institutions, due cognizance should be taken of the fact that, developed on the right lines, they can serve as the nucleus for a truly viable and effective system of local self-government. The five most important ingredients for such a system would seem to be: (a) maximum elected representation on the local bodies; (b) freeing these bodies from undue bureaucratic control and interference; (c) provision of adequate technical and administrative services, so as to help build up local competence for effective participation in the development planning process; (d) effective subjection of departmental officers at local levels to supervision and control by the local councils; and (e) delegation to the local councils of adequate resource-raising powers so as to gradually reduce their almost total dependence at present on government assistance, and to ensure that they are eventually able to stand on their own feet.

The role assigned to local representative institutions should be made significant enough so that the educated and intellectually advanced sections of the community are attracted to seek membership in these institutions. Consideration may also be given to the determination of electoral constituencies so as to provide specific representation to such sections.

13. To make planning maximally responsive to actual and constantly changing needs, it is necessary to install effective arrangements for reporting and feedback. In the past, arrangements for progress reporting have been among the weakest areas of planning. Urgent steps are needed to set up an integrated reporting system, which not only provides for the reporting of progress on individual projects and programmes but also for the indetification of new factors and conditions in the economy as a whole, and their prompt intimation to the planning agencies to create greater responsiveness in the planning process.

PUBLIC ADMINISTRATION AND PLAN IMPLEMENTATION

14. The role of public administration in relation to plan implementation assumes particular importance in a country like Pakistan, where the public sector occupies a key position in the total development effort, and where a large proportion of the private sector comes under the regulatory and promotional influence of the government. This role is likely to increase in future if Pakistan is to progress towards its broader social and welfare objectives. An all-out effort is needed to gear the administrative machinery to the heavier tasks of plan implementation that lie ahead in the years to come. Towards this end, action will be needed in several areas, some of which are discussed below.

Administrative Reform

15. Organizational adjustments, procedural simplifications, and salary revisions have been carried out by the Government on a number of occasions since Independence. However, the basic administrative system of the country, as well as its underlying philosophy, have remained essentially unchanged from those inherited at the time of Independence. The system has on the whole served the nation well during the post-Independence years. At the same time, it has been criticised on a number of grounds: (a) there are inequities inherent in it: (b) there is wide disparity in career prospects among different classes of public servants; (c) it accords exaggerated importance to the generalist administrator *vis-a-vis* the technical expert; (d) it breeds sharp class and status distinctions; (e) it does not give adequate importance to merit and quality of performance; and (f) it creates a gulf between the administration and the general mass of people.

16. The validity of the aforesaid criticisms must be examined objectively and, if established, steps taken to meet them by introducing the required changes with bold deliberation. In tackling this issue, it must be remembered that in order to survive and continue to serve dynamic social objectives, all social institutions must be able to undergo and to absorb change.

17. The need for fundamental administrative reforms in response to present-day needs has already been recognized, and a Services Reorganization Committee with wide terms of reference was set up towards the end of 1969. The report of the Committee had not become available before the finalization of the Fourth Plan, and it has not therefore been possible to reflect it in the Plan. It seems necessary, however, to emphasize here that the development effort of the nation can benefit immensely from the early emergence of an administrative order, based essentially on merit, which provides for: the maximum equality of opportunity, for entry as well as for advancement; a proper balance between the career prospects, service

conditions, status, and prestige of the generalist and specialist services; a true concept of public "service"; a competitive spirit so essential to dynamism and to high performance standards; the due recognition of actual and potential talent and especially of honest and dedicated work; and placement of the right man in the right job.

Personnel Administration and Management

18. The importance of the human element in development has received increasing recognition in recent years. Human resources, now widely termed "human capital" tend more and to be regarded as having a significance comparable to that of physiical and financial capital. Studies show that a large proportion of the growth registered by the now advanced economies over past decades is unexplained by inputs of physical and financial capital alone, and must therefore be attributed largely to the improvement in the productivity and overall quality of their manpower. As a result, efforts to find ways and means of getting the best out of the available manpower have been sharply accelerated in recent years. The government, being generally the largest employer of manpower, must lead the way in the matter of enlightened personnel management.

19. In Pakistan, the public personnel problem arises primarily in the forms of (a) shortages of suitably qualified and trained personnel in many key fields, (b) surpluses in some fields, and (c) the absence of personnel policies conducive to the optimum development and utilization of scarce talent. Because of these features, there is considerable room for improvement in the quality, quantity, and distribution of public sector manpower. The need for remedial action is urgent since the expanding tasks of development are placing increasing strains on the public service as a whole.

20. Few objective criteria or standards exist at present for assessing the performance of government employees, with the result that advancement in public careers does not necessarily depend on merit, suitability, and quality of job performance. Seniority *per se* is accorded excessive weight, without a corresponding requirement for the public servant to demonstrate it as evidence of progressively more nature and superior performance. Placement anomalies are common. Career planning and development, gaining rapid currency in some advanced countries, are almost unknown in Pakistan. No effective measures exist for the eradication of corruption and malpractices. A recent analysis of corruption made in USA shows that even in purely quantitative terms, its costs are excessive. The inroads that it makes on the moral fibre of a society is impossible to measure or to quantity. Above all, there is a distinct general lack of real dedication to public duty, and of a true sense of public service.

21. Much of the corrective effort in the aforesaid and other related areas will have to be directed at the training institutions, through appropriate strengthening and consolidation of the institutions in the light of carefully assessed training needs, fundamental reorientation of training syllabi and schedules preferably on the basis of findings of indigenously conducted research studies, and regular periodical refresher courses for all classes of public servants. The training at the vaious institutions needs to be related more closely to the practical needs of their clientele, in order that it may result in improved performance *on the job* which constitutes its ultimate objective. Towards this end, the training institutions should develop and maintain constant contacts with the various administrative agencies ascertain, their special training needs, and reflect them in their training syllabi. Training should specially highlight the importance of honest and dedicated performance of public duty, and should also place proper stress on human relations and motivation.

22. To facilitate greater substitutability among the various administrative and professional services, except the highly specialized ones, and to effect economies in training costs, it may be useful to develop an element of basic training common to

all officers irrespective of the service they belong to. Specialist personnel should be provided with both pre-entry and in-service training facilities in administrative principles and techniques, to equip them for jobs of an administrative nature within their respective jurisdictions. The training of officials in the lower grades of the public service, which has received little attention in the past but which is of crucial importance for the efficient functioning of the government's administrative machinery as a whole, should be accorded priority during the Fourth Plan. And finally, a thorough and detailed evaluation should be made of the nation's administrative training effort as a whole, with a view to identifying : (a) its impact on the performance of the public services; (b) the areas where tangible improvements can be carried out; and (c) the ways in which more effective use can be made of the institutions set up so far. Such evaluation is particularly necessary since the large number of institutions that have been created over the years seem to have grown in a rather uncoordinated manner.

23. The effort in the training field outlined above will have to be supplemented by effective measures in the areas of recruitment, placement, promotions, awards and incentives, and disciplinary procedures. It is hoped that concrete recommendations in regard to most of these areas will be made by the Services Reorganization Committee mentioned in paragraph 17 above.

24. Finally, the nation's educational system should be geared to the production of young men and women of the quality and calibre needed for the public services. This refers not only to education in the general sense (*e.g.*, arts, humanities, sciences and professions) but education which seeks to build the moral fibre of the student community as well.

25. Effective machinery should be installed for the redress of public grievances arising out of the improper use of bureaucratic authority and discretion. In this context, consideration should be given, *inter alia*, to the creation of administrative courts or tribunals, strengthening inspection teams, and other devices that have proved useful in other countries. Hard and honest work should be properly rewarded. Departmental procedures should be so reformed as to provide for greater participation by all levels of employees in decision-making.

The Role of Public Corporations and Authorities

26. Agencies falling under this description have multiplied rapidly in the past 15—20 years. Their operations now span almost every important sector of the economy, lending them key significance in the total development effort. Under the Fourth Plan, they will be called upon to implement almost two thirds of the total public sector programme. The performance of the various corporations and authorities has, however, been considerably uneven in the past. This is largely because the extent of financial and operational autonomy granted to them has not been adequate and has varied from one agency to the other, and effective arrangements for their staffing have yet to be evolved. Since most of the top positions in these agencies are filled by persons obtained on deputation from governmental agencies, their operational procedures tend to be patterned unduly on those in force in the conventional government departments rather than on those in business and industry. Paradoxically, despite the restrictions placed on their autonomous working, there have been instances of wasteful expenditures, inadequate attention to economic efficiency, and indifferent management of pricing policies. As a consequence, the public corporations have in general failed to make the level of contribution expected of them in the sphere of capital formation.

27. It is necessary to re-evaluate the entire concept of autonomous corporate agencies, and to introduce effective measures which will impart efficiency to their operations. Towards this end, the surveys and reviews of the working of major individual corporations being carried out by a committee appointed by the Governor's conference sometime back should be continued, and the recommendations of

the committee effectively and expeditiously implemented. A way must be found of satisfactorily reconciling the objective of strict public accountability with that of allowing sufficient operational flexibility to these agencies. Subject to this principal objective, the legislation governing the public corporations should be brought as close as possible to similar legislation governing private corporations. The control of the Government should be confined primarily to areas of broad policy determination, laying down of precise physical targets to be achieved, provision of capital, and appointment of the chief executive. Other than these the institutions should be given maximum freedom to function as corporate bodies. To expose the operations of these bodies to public scrutiny, they or their completed projects should be organised into public limited companies under the Company Law. Consideration may also be given to the creation of permanent review boards at the Centre as well as in the Provinces, which should keep a continuous check on the working of public sector corporations.

28. The staffing of autonomous corporations at present takes place almost completely on an *ad hoc* basis. Most of the senior positions are held either by retired government officers or by officers on deputation from other government departments. The fact that the main interests of these personnel continue to lie in their government careers militates against their developing a genuine long-term commitment to work in the corporations. To ensure the regular supply of managerial and professional talent suited to the special needs of the public corporations and authorities, and to invest the service in these agencies with the status of a career, early steps should be taken to constitute a special cadre which might be designated as the Industrial Management Service. Recruitment to this Service should be made through a competitive examination open to graduates in Business Administration, Engineering, and other professions. Middle level managers from private business and industrial firms should be encouraged to join this service, and civil servants who wish to adopt industrial management as their career should be deputed for specific activities for extended periods, or preferably, absorbed permanently into the Service if found suitable. Existing employees of the corporations should also have the opportunity to enter the Service if they fulfill certain prescribed minimum qualifications. Before creating the Service, the results of the Indian experiment with an Industrial Management Pool should be carefully studied in order to avoid factors which might limit the effectiveness of the proposed Management Service. The autonomous agencies should have full freedom to engage, promote, and remove personnel in the non-managerial categories.

29. The compulsions for increasing the efficiency of public corporations spring from reasons which are far wider than achieving an adequate return on invested capital. The public sector has to play an increasing role in the country's development effort to maintain the present critical balance between economic and socia objectives, by discouraging monopolistic tendencies and by accelerating the progres of less developed regions. However, this role would be difficult to carry very far the public sector corporations are not efficient and the quality of their products anl services is unacceptable. A major overhaul of the working of public corporatio n will, therefore, be one of the most critical areas of importance during the Fourth Plan.

Research, Statistics, Modernization of Procedures, and Institution-building

(a) Research

30. Some progress has been made under these heads in recent years, but much more remains to be done. Administrative research is still in its infancy, primarily for lack of a genuine research orientation in public agencies and among public personnel. The All Pakistan Public Administration Research Centre, created sometime ago under the aegis of the Central Establishment Division, has yet to provide the eadership expected of it in the research field. In-service training institutions such

as the National Institutes of Public Administration (NIPAs) have not been equippe to give adequate attention to the research part of their functions, and need to b strengthened for this purpose. The universities, which have considerable potentia as instruments for objective and scholarly research, have yet to be associated wit the process to the desired extent.

(*b*) *Statistics*

31. Some progress has been made in strengthening the statistical service over the Second and Third Plan periods, but this has fallen short of the rapidl growing requirements of the economy. Deficiencies of reliable and uptodate statis tics still exist at the Central and particularly at the Provincial levels. There ar serious gaps in several major subject areas, and the individual statistical series ar not related to a well organized system of national accounts. The recommendation made in this behalf by the National Income Commission in 1965 and since approve by the Government should be implemented during the Fourth Plan period, as als the recommendations of the recent World Bank Statistical Mission. With th break-up of the One Unit in West Pakistan, data for the new Provinces will also hav to be collected and coordinated in accordance with standardized concepts an classifications.

32. The major fields to be given attention in the Fourth Plan are nationa accounts, censuses and surveys, research and development, training, administrativ services, and data processing. Another reproduction unit is to be provided in th Central Statistical Office, and two national institutes of statistical research are to b established, one in each Wing. However, an even more pressing need is for th strenthening of existing Provincial Statistical Bureaux and for the creation o statistical units in the new Provinces of West Pakistan.

(*c*) *Modernization of procedures*

33. Procedures in many governmental agencies remain out-dated, slow-movi and incompatible with the requirements of a growing economy, and need wid ranging reform and modernization. Simplified and streamlined procedures ca besides speeding up operations, also be useful in reducing corruption and malpra tices in certain areas.

34. This matter has been under the active consideration of Government f sometime past, and some tangible measures have already been taken, especially the financial and accounting spheres. For example, the system of financial manag ment in the Central Government has been further revised. The Secretaries of Centr Ministries and Divisions have been given enhanced financial powers and provid with qualified officers to advise them in financial and accounting matters. A n tional accounts academy is to be established at Karachi to train officers in vario accounts services, to conduct accounts research, and to select and sponsor candidat for overseas training. Some steps have been taken to expedite the disposal of pe sion and provident fund cases, and of cases involving financial transactions betwe the Government and the general public. A beginning has been made in improvi the working of treasuries by setting up district accounts offices in some distric The objective is eventually to have such offices throughout the country. Final computerization has been started on a modest scale in the areas of payroll and pe sions. A Computer Service Bureau-*cum*-Training Centre is being establish which will identify areas suitable for computerization in government departme and semi-autonomous agencies and will prepare a phased and integrated long-te plan for computerization of the public sector.

35. Efforts in the direction of procedural modernization need to be continu and accelerated, in areas other than those just mentioned and especially in th involving the dealings of the Government with the private sector and with the pub at large. Such procedures should be properly codified, reproduced in pamphl

and distributed for general information so that the public knows where and how to go for specified purposes. The Central and Provincial O & M Units should undertake these tasks on a priority basis. Steps should also be taken to set up small O & M cells in major ministries and departments, and to provide O & M advice to local administrations at the district and divisional levels.

(d) Institution-building

36. In this context, it seems pertinent to draw attention to a new concept of "institution-building" that has been gaining currency in some of the advanced countries, especially the USA, in recent years. The concept implies that organizations should be viewed, not from any specified angles such as their staffing and so on, but in their entirety and within the total context in which they operate. It is only if they are organized with due regard to this total context that they can be expected to develop into viable "institutions", and be permitted to making a lasting and valuable contribution within their assigned spheres of responsibility. The strategic variables in this institution-building framework are : leadership; doctrine; programme; resources (financial, physical, and human); internal structure; and "linkages" or relationships with other organizations, the general public, the clientele and so on. It is felt that this concept can usefully replace the relatively narrow O & M concept heretofore applied in surveying organizations, and can help in carrying out all-round improvements in those organizations.

Implementation in the Private Sector

37. While the private sector has been a dynamic element within the economy in so far as growth is concerned, it is necessary now to have a new look at its working in order to define the areas of public responsibility. It is axiomatic that in a developing economy it is not possible to allow the private sector the freedom of the classical laissez-faire economies and it is necessary to formulate a realistic concept of social discipline within which the private sector should work.

38. Private investment has so far been guided almost entirely by considerations of maximum profit. While the profit motive is understandably a major guiding force for private enterprise, it has to be tempered by a realization of social responsibility. The government policy, through larger competition and through special incentives, should seek to ensure that investment is channelled into areas of high national priority. Towards this end, investment sanctions as well as taxes and other benefits need to be re-examined in detail in accordance with the criteria of social need priorities.

39. It is commonly assumed that the private sector is much more efficient than the public sector. The concept of this efficiency has, however, been defined very narrowly, and has meant maximum return on capital. This is a valid but a very limited concept of efficiency and it is necessary that it should be supplemented by a concept of social return on capital. This should mean not only that investment is made in a socially needed area but also that the operations of the project itself are carried out in a socially healthy manner. Thus productivity and quality control should be as important as return on capital. The society is not interested in a particular individual making high profit. Its interest lies in the best and optimum use of the resource over which he has been given control. It is suggested that the various trade organisations should form their own quality control and productivity groups which should be made responsible for initiating and developing this aspect of the operations. The Government should encourage the formation of such groups and keep a watch on their activities.

40. In the first stage of the country's development, private sector entrepreneurs have played a major role in growth. The stage has now been reached when

the entrepreneural and the managerial functions need to be clearly distinguished. In the past, the entrepreneur was able to make high profits due to a general lack of competition, a closed market, and an array of incentives. These groups, though essential at the early stage of development, have involved a major cost to the economy and need to be withdrawn gradually. As this is done, and as competition, internal as well as international, becomes a real factor, good professional management would become essential. The need for this is being felt already. In order to encourage it further, it should be ensured that recruitment for major private sector projects becomes institutionalized, in order that fresh graduates and other qualified persons are employed rather than persons on an *ad hoc* patronage or relationship basis. For this purpose, private organizations should be encouraged to set up general recruitment bodies which should maintain close contact with the universities. At the same time, additional institutions should be set up in the country for the training of middle-level and senior managers. The Government should assist the formation of these institutions by such means as the grant of foreign exchange or procurement of technical assistance. To provide an appropriate academic base for the production of managerial talent, all universities in the country should be encouraged to have full fledged business administration departments.

41. To facilitate the achievement of a higher general level of productivity in the country, the following institutional framework is recommended :

(*i*) A high-level National Productivity Council should be set up under the Central Government, which should serve as a liaison agency between the Government and business, and should advise the Government on various policy and administrative measures needed for raising productivity at the national level.

(*ii*) Regional Productivity Centres should be established in both Wings of the country to deal with productivity problems in their respective regions.

(*iii*) Productivity centres should also be established for branches of industry to deal with specific problems of productivity faced by those industries.

As a necessary pre-requisite to the creation of the network of institutions suggested above, a detailed survey should be conducted in order to collect the relevant data on productivity, including inter-firm comparisons of productivity in each industry. This will facilitate the identification of priority areas on the basis of which productivity centres can then be set up. The survey should be conducted by an independent agency, with such outside expert assistance as may be necessary.

42. The improvements in plan implementation arrangements discussed above impinge upon various sectors throughout the economy. Perhaps the most important sectors in this context, however, are the Education, the O & M and the Training sectors. It is by providing the best leadership and posting the ablest available officers to these sectors that continuous innovation can be ensured, and the institutions transformed so as to meet the challenges likely to arise in connection with plan implementation.

FINANCIAL ALLOCATIONS

43. The problems and prospects of successful plan implementation that have been discussed above call mostly for measures and decisions of a policy nature. Nevertheless, financial provisions will be necessary in the Plan for some of the schemes and programmes that will have to be launched in some areas relating to public administration. Towards this end, specific allocations are being made in the Plan as follows : (a) Rs. 40 million for administrative training; surveys, research, and statistics; and mechanization of operations; and (b) Rs. 15 million for staff welfare.

In addition, there will be schemes and projects in all the other sectors of the economy which will have a bearing upon the improvement of the plan implementation arrangements in those sectors.

44. It may be pointed out that the allocations mentioned above will cover only the capital cost of specific projects. The financial requirements, if any, of basic administrative changes and policy measures suggested in this Chapter would be reflected as non-development outlays of the Central and the Provincial Governments. As shown in Chapter 4, liberal provision for increase in non-development expenditures has been made to allow such financial costs to be absorbed.

CHAPTER 10

REGIONAL ECONOMIC COOPERATION

In a world that grows more and more inter-dependent as it shrinks, it is natural that there should be an awareness of the importance of devising international and regional mechanisms to ensure better coordination of economcic and social policies. The three countries of Iran, Pakistan and Turkey with their geographical proximity and deep-rooted historical, political and cultural ties, all at more or less the same stage of economic development, form an ideal group to pool their resources and benefit from the economies of scale, large markets and greater bargaining power in promoting their exports.

2. This grouping was formalised at the Summit Conference of the Heads of State/Governments of Iran, Pakistan and Turkey at Istanbul in July 1964 and R.C.D. (Regional Cooperation for Development) was born. The R.C.D. countries provide a market of some 180 million people with a national product of about 30 billion dollars.

3. The main objective of R.C.D. as laid down by the Istanbul Summit Conference is to strengthen the developmental efforts of the three member countries through active and sustained collaboration on a regional basis. The summit agreed in principle to the following :—

1. To a free or freer movement of goods through all practical means such as the conclusion of trade agreements.
2. To establish closer collaboration amongst existing Chambers of Commerce and eventually a joint Chamber of Commerce.
3. To the formulation and implementation of joint purpose projects.
4. To reduce the postal rates between the three countries to the level of internal rates.
5. To improve the air transport services within the region and eventually to establish a strong and competitive international airline among the three countries.
6. To investigate the possibilities of securing close cooperation in the field of shipping including the establishment of a joint maritime line of "conference arrangements."
7. To undertake necessary studies for construction and improvement of rail and road links.
8. To sign at an early date an agreement with a view to promoting tourism.
9. To abolish visa formalities among the three countries for travel purpose.
10. To provide technical assistance to each other in the form of experts and training facilities.
11. To explore all possibilities for expanding cooperation in the cultural field among the countires of the region.

4. In pursuance of the above objectives, member-governments are cooperating in the fields of industry, trade petroleum and petro-chemicals, technical assistance, transport and communications and cultural exchange. etc.

Institutional Arrangements

5. In order to promote cooperation in these sectors, a three-tier organisational set up was established.

6. The Council of Ministers is the highest decision making body of the R.C.D. The Regional Planning Council composed of the Heads of Plan Organisations of the member-countries is the other permanent body which forms the second tier of this hierarchy. The third tier is formed of permanent committees each consisting of representiatives of member-governments. The permanent committees provide the basic channel of contact among the member-countries in sepecific sectors *e.g.*, trade, industry and transport and communications etc.

7. A permanent Secretariat of the organisation was also set up at Tehran to coordinate R.C.D. activities generally and to pursue implementation of decisions and to provide secrcretarial services to the Ministrial Council, Regional Planning Council and its committees.

Harmonisation of Plans

8. The economic cooperation among countries necessitates coordination and harmonisation of the development plans of the member-countries so that the programmes agreed on regional basis are incorporated and integrated in the national development plans. The Summit Conference of the Heads of the States of the three member-countries at their meeting at Karachi in December 1968 took a formal decision to this effort and directed that a joint plan in the field of R.C.D. Transport and Communications system should be prepared and incorporated in the national development plans. They also directed that there should be frequent consultations amongst the planners of the member-countries at various levels. At their Summit meeting held at Izmir on May 6-7, 1970, the Heads of the States and Governments agreed that their governments should make special provision for reflecting relevant R.C.D. programmes in their development plans and that a special Committee should be formed for plan harmonisation. This special Committee will now recommend specific measures for the harmonisation of national plans.

Joint Purpose Enterprises

9. The objective of setting up joint purpose enterprises is to benefit from the large regional market by developing such projects as may not be viable on the basis of the national market.

10. Under the aegis of R.C.D. "joint purpose enterprises can be undertaken in various forms such as joint ownership, either in the public or private sector, ownership by one country or more for making supplies to the others, establishing production facilities in one country for which raw material is produced in the other, and long,-term purchase agreements based on productive facilities in any of the countries."

11. Noticeable progress has been made in the field of joint purpose enterprises Fifty-three joint purpose enterprises have been approved in principle. These projects relate to aluminium, diesel engines, locomotives, petro-chemicals, chemicals and electrical and engineering industries. The following thirteen of them are now in production :—

(*i*) Methanol Industry between Iran and Pakistan located in Pakistan.

(*ii*) Urea formaldehyde project between Iran and Pakistan located in Pakistan.

(*iii*) Bank Note and security paper project amongst Iran, Pakistan and Turkey located in Pakistan.

(*iv*) Machine Tools (Turret and Capstan Lathes) between Pakistan and Turkey locatedin Pakistan.

(*v*) Gear boxes and Differential System between Pakistan and Turkey located in Pakistan.

(*vi*) Glycerine between Turkey and Iran located in Iran.

(*vii*) Glycerine between Pakistan and Turkey located in Pakistan.

(*viii*) Borax and Boric Acid amongst Iran, Pakistan and Turkey located in Turkey.

(*ix*) Machinery for Tea Industry between Pakistan and Turkey located in Turkey.

(*x*) Tungsten Carbide between Pakistan and Turkey located in Turkey.

(*xi*) Polystyrene project between Iran and Turkey located in Turkey.

(*xii*) Locomotives diesel engines project amongst Iran, Pakistan and Turkey located in Turkey.

(*xiii*) Centrifugal and special filters between Pakistan and Turkey located in Turkey.

12. The following joint purpose enterprises are under various stages of implementation and are likely to go into production by the end of 1970 :

(*i*) Ball bearing project amongst Iran, Pakistan and Turkey located in Pakistan.

(*ii*) R.C.D. Jute Mill amongst Iran, Pakistan and Turkey located in Pakistan.

(*iii*) Shock Absorbers between Pakistan and Turkey located in Pakistan.

(*iv*) Organic Pigment Dyes projects between Pakistan and Turkey located in Turkey.

(*v*) Basic Chrome Dyes project between Pakistan and Turkey located in Turkey.

(*vi*) Diesel engines required for use in marinecraft, tractors, earth moving equipment and light and heavy trucks and buses project among Iran, Pakistan and Turkey to be located in Iran, Pakistan and Turkey.

(*vii*) Ultramarine blue project between Pakistan and Turkey located in Turkey.

13. A number of studies on projects of regional significance are being undertaken by the member governments with a view to developing additional joint purpose enterprises. These studies cover *inter-alia* projects in Heavy Enginnering and Electrical goods, Automobile Industry and Ship buidling. In order to avoid unnecessary duplication of capacity and to ensure integrated and rational approach for the development of Heavy Engineering and Electrical projects in the R.C.D. region, the member-governments have assigned a study to UNIDO for making appropriate recommendations in this behalf.

14. The approved joint purpose enterprises have been assigned priority in Pakistan's Development Plan. During the Plan period the implementation of the approved joint purpose enterprises will be expedited. A special Committee has been set up in Pakistan to watch the progress of these projects. Further studies will also be undertaken in respect of sophisticated and large industries which should be established on a regional basis. To encourage the participation of the private se tor in R.C.D. joint purpose enterprises, additional incentives and facilities are being provided. Efforts will also be made to facilitate the flow of products of these joint purpose enterprises.

15. The main objective of the industrial programme under the Fourth Plan is to develop export orientated and import substitution industries and as such greater emphasis has been placed on intermediate and investment goods industries. The largeness of R.C.D. market provides a substantial potential for the establishment of these industries on an economically viable basis. Greater attention will be directed to the development of such industries on an R.C.D. basis.

Trade

16. Trade is the key to regional cooperation and is a visible symbol of the success of such cooperation. During the past six years a numbe rof measures have been adopted for facilitating the expansion of intra-regional trade. These measures include the establishment of R.C.D. Chamber of Commerce and Industry, R.C.D. Union for Multilateral Payment Arrangements, R.C.D. Trade Agreement, Administrative actions for tying of imports and exchange of commodities, idnentification of exportable items, exchange of business's delegations and common participation in international exhibitions. Despite these efforts the level of intra-regional trade has remained very low ; it constitutes less than 2% of their world trade.

17. The main obstacles in the expansion of intra-regional trade include low level of the economic development of the member-countries parallelism in their indu trial programmes, inadequate transport services, high export price and relatively low quality of regional produ ts, restrictive import regimes of member countries, tied aid, health control and other technical requirements, traditional links of importers with producers and exporters of developed countries, preference of importers and consumers for importing from developed countries rather than from R.C.D. partners and lack of export credit facilities.

18. The quantum of trade was reviewed at the meeting of the Commerce and Economy Ministers of the R.C.D. countries in September, 1968 which decided that a study should be conducted by the United Nations Conference on Trade and Development (UNCTAD) with a view to identifying all barriers impeding intra-regional trade and making recommendations for its liberalisation and expansion. The report has since become available and is currently under examination by the member-governments. The UNCTAD report has identified significant potential for the expansion of R.C.D. trade and has made a series of useful recommendations for the exploitation of this potential. At the Summit Conference held at Izmir on May 6-7-1970 the Heads of State of the three member-countries directed their Ministers concerned that at this joint session ' they should take effective decisions towards reduction of tariff barriers and relaxation of quantitative restrictions and other non-tariff obstacles and to establish a programme for the early implementation of this decision '.

19. In pursuance of this directive member-governments have initiated negotiations which are expected to result in the evolution of a legally binding framework for the expansion of trade. Such a framework may result in fuller utilisation of idle capacities and open up new specialisation opportunities. Apart from this other measures for expansion of trade will be undertaken during the plan period. These measures are expected to include provision of incentives for export promotion, extending use of state trading and barter arrangements, improved export credit facilities and simpler health control regulations.

Insurance

20. Collaboration in the field of insurance is aimed at providing efficient insurance and re-insurance services to the business community of the member-countries and limiting the outflow of foreign exchange from the region.

21. To pursue these objectives the R.C.D. Insurance Centre has been established at Karachi. To provide re-insurance facilities and to limit the outflow of foreign exchange from the region, Regional Re-insurance Pools have been formed. Four of these Pools namely, Accident, Marine (Hull and Cargo) Fire and Aviation have been functioning successfully. These pools transacted a business volume of U.S. $ 1.77 million in 1969 in terms of premium income which is expected to exceed U.S $ 2 million in 1970. A new Engineering Re-insurance Pool has also started operating from January 1970

22. Encouraged by the successful operation of these re-insurance pools, the feasibility of establishing a regional re-insurance company is being examined by the member-governments. If found feasible such a company will be established during the Fourth Plan period.

Banking

23. In view of the development of joint purose enterprises and expansion of trade envisaged, the need for providing credit and banking facilities on a regional basis is being increasingly recognised. The question of establishing Regional Commercial and Development Bank is being studied by the member-governments. If found feasible, agreed institutional arrangements will commence operation during the Fourth Plan period.

Transport and Communications

24. An adequate and efficient transport and communications system is essential for strengtheing commercial relations and people-to-people contacts. The transport and communications sector has therefore been accorded high priority by the R.C.D. countries. The following measures have been adopted to improve cooperation in the fields of posts and telecommunications, roads, railways, shipping and air transportation.

25. The *Post and Telecommunications* proved to be a field which was particularly suited to increased cooperation between member-countries. A number of measures were adopted for improving post and telecommunications services in the region. Some of the important developments were the following :—

(*i*) Surface postal rates in letter mail of all categories, telegraph rates between member-countries and rates for telephone calls in the region countries have been substantially reduced.

(*ii*) Member-countries have opened Post and Telecommunications offices in the border areas.

(*iii*) Simple Operator Trunk Dialling among the R.C.D. countries on an experimental basis has been introduced.

(*iv*) Iran, Pakistan and Turkey are preparing plans for the utilisation of Satellite Communication facilities. The three countries are considering the formation of a grouping to secure representation on the executive Committee of the Consortium.

26. In the field of *Road Transportation*, the RCD gave special importance to the expeditious completion of a R.C.D. Highway linking Karachi-Tehran-Ankara. The total length of the Highway is about 5,267 km or 3,292 miles. The Pakistan portion of the Highway consist of 1,310 km, that of Iran 2,700 km and that of Turkey 1,257 km. It is estimated that major portion of the Highway will be completed by 1972 in accordance with the agreed standards. In addition to the R.C.D. Highway, the regional countries are also developing a through railway link. The rail link between Iran and Turkey would be operative by the end of 1970. As regard

Iran-Pakistan rail link the Pakistan railway system extends up to Zahedan and the portion from Zahedan to Kerman will be surveyed by Iran shortly.

27. In the field of *Shipping* a R.C.D. Shipping Service is already operating on the basis of pooling of vessels of the member-countries. It has been agreed by the member-countries to expand co-operation in the field of Shipping by establishing a Joint Shipping Company. Feasibility studies are under way and it is expected that the establishment of Joint Shipping Company would become possible shortly.

28. In the field of *Air Transporation* the formation of a joint airlines is one of the most important projects under study. The project concerning the establishment of a Joint Airlines has been approved in principle. It was agreed by the Karachi Summit of the Heads of the States of the Government in December 1968 that the feasibility of commercial operation of wide-bodied and sub-sonic aircraft should be studied. The Summit conference held at Izmir in May 1970 also decided that the possibility of operating sub-sonic and super-sonic aircraft on a joint basis be explored expeditiously and the national airlines should endeavour to enlarge other areas of co-operation among themselves. Steps are under way by the member countries for implementation of this decision.

Technical Co-opcreation nad Public Administration

29. In order to expand and strengthen technical cooperation between the member-countries exchange of trainees and experts has been taking place every year sinces 1965. Seminars have also been held annually since 1965. In the last 5 years 29 seminars were held on various economic, social and cultrual subjects with a view to identifying areas for greater cooperation between member-countries. In the same period about 431 trainees and 33 experts were exchanged between the three countries in different fields.

30. The programme of technical cooperation has provided unique opportunities for exchanging technical skills and experiences among member-countries and direct contact between the experts and people of the three-countries. In addition to the exchange of experts and trainees Joint Courses on Public Administration and Management have been held regularly since 1967 at the Pakistan Administrative Staff College, Lahore. This has proved very useful in bringing together senior administrators from the three countries to discuss common problems in the field of administration and management.

31. The R.C.D. Technical Cooperation programme will be further strengthened during the Fourth Five Year Plan Period to reflect extended cooperation in other areas like Agriculture, Family Planning, Water Resources Development and Scientific Research.

Cultural Co-operation

32. Co-operation in the field of education, science and culture is necessary to develop consciousness of the common cultural heritage and to promote socio economic development and political collaboration amongst the member-countries. The R.C.D. Cultural Institute was set up at Tehran in 1966 with branches at Istanbul, Dacca and Lahore. The Institute has brought out 14 publications ; another 20 will be completed during 1970. These include a book on history, culture and civilisation of the region, a book on common cultural practices and translations of works Allama Iqbal, Nazarul Islam, Buhaghi, Naili and Ghalib. The annual cultural exchange programme is under implementation and includes exchange of artists, journalists, sports teams, women delegations and exhibitions. A documentary film depicting cultural and development aspects of the member countries is expected to be completed by the end of 1970. The News Agencies and Radio and

T. V. organisations of member-countries have also developed direct contacts with each other.

33. During the Fourth Five Year Plan period the activities of the R.C.D. Cultural Institute and its branches will be strengtend and greater cultural exchanges would be ensured.

Co-operation in other fields

34. Cooperation in the fields of Health, Family Planning, Agriculture, Water Resources Development and Scientific Research involves exchange of information, trainees and experts. This cooperation is being promoted through the programme of technical cooperation.

35. To sum up, the direction of future R.C.D. activity would be to intensify cooperation under four broad categories—

(*i*) development of an adequate, efficient and economic system of transport and communications ;

(*ii*) liberalisation, promotion and expansion of intra-regional trade, mainly through the establishment of a preferential trade liberalisation programe;

(*iii*) promotion of industrial joint purpose enterprises whenever and wherever possible and practicable. It is this field of cooperation which makes possible harmonisation of production facilities, contributes to greater expansion of intra-regional trade and provides a surer and sound basis for economic relations ; and

(*iv*) exchange in the cultural and technical fields so as to benefit from the trainint facilities in the region and strengthen the prople-to-people relationship.

Indonesia-Pakistan Economic and Cultural Cooperation Organisation (I.P.E.C.C.)

36. In September 1964, the President of the Republic of Indonesia and the President of Pakistan declared that in view of the community of interest which existed between the two countries they will pursue vigorously the task of establishing between them close cooperation in economic and cultural spheres. Feeling that " cooperation is an important factor in accelerating the pace of development in a region and in promoting peace and stability and in accord with the Bandung spirit and the concept of Afro-Asian solidarity ", the Governments of Indonesia and Pakistan decided in August 1965 to establish Indonesia Pakistan Economic and Cultural Cooperation Organisation (I.P.E.C.C.)

37. A three tier organisational set-up, consisting of Ministerial Council, Economic Council and Technical Committees on Joint Ventures, Technical Cooperation and Cultural Cooperation and Information Media, Communications and Trade was set up to promote cooperation under the aegis of I.P.E.C.C. A small Secretariat was also set up at Djakarta to service the Ministerial Council and other subsidiary bodies and to coordinate the implementation of I.P.E.C.C. decisions.

38. Cooperation under the aegis of I.P.E.C.C. is being promoted in the fields of joint ventures, trade, banking and insurances, technical and cultural cooperation, information media and communications. A brief review of the I.P.E.C.C. activities and future prospects and plans is given below :—

Joint Ventures

39. The following possible joint ventures have been identified :—

(*i*) Jute Industry.

(*ii*) Fish catching, processing and export industry.

(*iii*) Rubber processing.

(*iv*) Metal processing.

(*v*) Building of small ships and river crafts.

(*vi*) Cotton Textile industry.

(*vii*) Timber extraction and logging.

(*viii*) Exploration and exploitation of oil in Indonesia.

(*ix*) Manufacture of transport aircrafts.

40. Studies in respect of some of these industries have been prepared and are under examination of the two Governments. During the Fourth Five Year Plan period more studies will be undertaken and such joint ventures on which the governments agree will be implemented.

Trade

41. In view of the production pattern of the two countries trade potential between Indonesia and Pakistan is good. Agreements were signed between the two Governments for the exchange of commodities worth U. S. $20 million and for the grant of a credit of U. S. $10 million by Pakistan to Indonesia. A number of measures for expansion of trade between the two countries are also being undertaken. These include exchange of information on import and export regulations and on commodities of export interest to the other country, visit of businessmen's delegations, consultation between the Chambers of Commerce and Industry, and strengthening of banking and shipping services. During the Fourth Five Year Plan period efforts will be intensified for increasing trade between Pakistan and Indonesia

Communications

42. Agreements have been signed between Pakistan and Indonesia for facilitating air transporation and shipping services. Reduction of postal rates and establishment of direct telecommunication link between the two countries are also under consideration.

43. During the Fourth Five Year Plan period activities in this field will be stepped up and further measures adopted for increasing collaboration.

Technical and Cultural Cooperation and Information Media

44. The Technical and Cultural Exchange Programmes are under implementation. These include exchange of trainees, deputation of experts, exchange of sport teams, artists and eminent personalities. The Radio Organisations of the two countries are also collaborating with each other.

45. In overall terms implementation of the technical and cultural exchange programmes will be further strengthened during the Fourth Five Year Plan period with a view to bringing the peoples of the two countries closer together.

CHAPTER 11

SOCIAL POLICY

1. In the early stages of development, Pakistan concentrated its development effort largely on the productive sectors of the economy. Social development got low priority and was cut severely during the Third Plan. As a result, we succeeded in generating reasonable economic growth. But this was largely offset by growing population and the need for financing increases in investment from domestic resources, which correspondingly reduced consumption. Furthermore, the benefits of increased generation of incomes were not evenly shared and living standards did not show the expected increase. The Fourth Plan aims to redress some of these past imbalances and to achieve a better balance of social and economic objectives.

2. The government has already taken a number of measures which affect social welfare. The new labour policy initiated a minimum wage system which gave substantial pay increases to many industrial workers, and strengthened the trade unions. A scheme of social security for industrial workers financed by a payroll levy which will provide health, retaining, and pension benefits will be considered in the Fourth Plan. The government has already moved to check tax evasion, and is expected to reduce exemptions which presently favour the upper income groups. Anti-monopoly legislation will protect the consumer, ensure more effective competition and give greater opportunities to small business. A review of the bonus voucher scheme, relaxation of industrial licensing, reduction in discriminatory tax concessions and liberalisation of imports should also help to promote competition and increase efficiency.

3. Efforts will be made to disseminate the new agricultural technology to low-income farmers on a larger scale than was possible earlier. The government is considering a scheme of crop insurance which will help to stabilise fluctuations in agricultural incomes.

4. The Fourth Plan is also designed to take more careful account of consumer needs and demands than in the past and to ensure that the prime necessities of low-income groups are available at reasonable prices. A separate consumption plan designed to ensure sufficient production and availability of common consumption goods to meet growing demand is being prepared. This would seek to contain prices through adequate availability which is the only sure long-term remedy for the price situation. Efforts will be made to improve nutrition by research on foodstuffs with higher protein content, by promotion of the livestock industry, and improvements in fruits and vegetables.

5. The allocations to the social sectors are being made in the Plan on a high priority basis. The intention is to implement the new policies in education and labour. A health policy and policies for urban transport are being formulated. Within reasonable limits, financial resources should be available but the major bottlenecks are expected to be in administrative and institutional fields. The social sectors, partly as a result of meagre allocations in the past, have not developed the necessary skills in formulating and implementing projects. We will have to strengthen this machinery in the Fourth Plan. Government officers concerned with implementing programmes should make a determined effort to allocate adequate resources for these objectives in Annual Plans and to remove bottlenecks in implementation. The acceleration in the rate of spending would be gradual and is expected to reach its peak towards the end of the Fourth Plan period and would form the base for further acceleration in subsequent years.

6. The Fourth Plan proposes an increase of 158 per cent in development expenditure on what may be broadly considered as "social services". Rs. 13,440 million are being allocated under this head, *i.e.* 27 per cent of total Fourth Plan expenditure compared with 20 per cent actually spent in the Third Plan. "Non-development" current expenditure by the central and provincial governments will also increase sharply. The total provision for recurring expenditure on social sectors which is already reflected in the calculation of resources for development purposes, is estimated at Rs. 10,550 million during the Fourth Plan period as against Rs. 5,530 million in the Third Plan.

TABLE 1

Development Expenditure on Social Programmes

(Rupees Million)

Sector	Second Plan (Actual)	Third Plan (Estimates)	Fourth Plan Allocation	Percentage increase in Fourth over Third Plan
Housing	1,666	1,638	3,795	132
Education	912	1,307	3,665	180
Health	381	638	2,445	283
Family Planning	19	365	695	90
Works Programme	650	1,136	2,450	116
Social Welfare	42	51	210	312
Manpower	34	48	140	192
Public Administration	—	23	40	74
Total ..	3,704	5,206	13,440	158
Percentage of Total Expenditure ..	21.1	20.3	27.4	—

7. In the social field, it is difficult to draw up a detailed cost-benefit analysis which will provide a reliable set of policy priorities. Some benefits are difficult to quantify in economic terms, or are only partly measurable. Economists have done a great deal in recent years to evaluate the benefits of education as an investment in human resources, and the same techniques may also be applied to assess the contribution of improved health, increased life expectancy or better housing, to the productivity of the labour force. Similarly, we have methods of estimating the benefits, of society of births prevented in family planning schemes. However, we still have very big problems in deciding how much better health or increased life expectancy are worth.

We also have a problem in assessing benefits because there may be important external economies. Cheap and simple public health measures primarily designed to help the poor will be essential for other sections of the community as well. However much a rich man may spend on medical care and protection he will always risk catching malaria or dysentery until these have ceased to be epidemic in the mass of the the population. The benefits of different social programmes are also interrelated and self-reinforcing. Improved health comes both from direct expenditure on health programmes and from improved water supply, sewerage, and drainage. Education will improve productivity and also help produce an appreciation of the virtues of personal cleanliness, improved sanitation, better nutrition, and family planning. Pragmatic common sense judgement and the results of more sophisticated exercises carried out in other countries suggest strongly that the economic benefits of investment in health and education are high, particularly in view of the low level from which we start. However, we cannot base policy in the social fields simply on narrow economic considerations or even on sophisticated but statistically tenuous measures of potential welfare gains. We must act in a spirit of social justice to guarantee certain minimum standards. Otherwise our society will lack moral purpose and political cohesion.

8. The basic truth is that Pakistan is so poor that a large section of the population lives at sub-human standards. What they need is not marginal adjustments in nutrition, health and education, but a qualitative leap which will make them recognisable members of a dignified society. The average weight of an adult Pakistani is about 120 lbs; this is about 30 lbs. less than the average European. The average haemoglobin count is two-thirds that in Europe; in this anaemic state we are readily prone to diseases like tuberculosis, pneumonia and influenza. At any one time, at least a third of the population suffers from intestinal disorders, and the rural population is infested with hookworm. Our life expectancy is less than 50 years, which is 20 years less than in Europe. Fifteen per cent of our children die at birth or in the first year of life. Eighty five per cent of the population cannot read or write. Only 18 per cent of our boys and six per cent of our girls complete the first five years of elementary school. Whichever social indicator we consider, Pakistan occupies a place near the bottom in Asia. And Asia is the poorest continent.

9. Fortunately, many of the most pressing welfare problems can be ameliorated at relatively low cost. We can add a decade to life expectation at a smaller cost than it takes to add a week to the average American life. Malaria and dysentery eradication are infinitely cheaper than heart transplants or leukemia therapy.

10. For all these reasons there can be little objection to devoting 30 per cent of the Plan allocations to social development, even if it means a slower growth in purely economic terms than if the resources were used otherwise.

11. Implementation of this programme involves layers of government, and especially local government, where the present allocation of responsibility will have to be clearly defined, and the relationship between plan targets and actual achievement improved. Only 30 per cent of the sanitation targets were fulfilled in the past, but housing programmes for civil servants were over-fulfilled.

12. The implementation of the social programmes will thus require a considerable strengthening and renewal of the administrative apparatus. We need a review of local government structure, with increased responsibilities for municipalities, and a rationalisation of the procedure for grants-in-aid. At the

Centre there will be a need for pinpointing responsibility to ensure the effective implementation of programmes for health, housing and physical planning. For example, in the field of housing and physical planning, responsibility at the Centre is now divided between six different ministries.

13. Present resources do not permit the creation of a welfare state. In expanding the social services, our main concern for the present should be with the poorest section of the population, while those who can afford to do so should pay the full economic cost of the health services, water supply or housing. At present social programmes often give unintended and erratic subsidies. Thus public hospitals provide free drugs and accommodation to prosperous patients; municipal water and sewage schemes are heavily subsidised and the main beneficiaries are those who inhabit pucca houses; improvement trusts have been given loans to develop plots which are sold to prosperous home-owners on a non-profit basis. We must look carefully into accounting procedures and service charges to see that benefits actually flow in the intended direction.

14. Within our social policy, there must be some rough hierarchy of priorities, so that funds can be allocated, administrative energy concentrated, programmes checked and evaluated, and hard core items preserved in periods of resources constraint and retrenchment. It is an invidious task to establish rigid programme priorities, because each programme contains within itself a range of urgency varying from immediate to contingent. We must, therefore, have some view of priorities within programmes.

15. Table 1 lists the social welfare programmes alongwith their allocations. Family planning is probably the best social and economic investment we can make at our level of development. A recent evaluation suggested that it had a benefit cost ratio of 24 : 1, and its advantages are manifest to all. For a cost equal to only 1.5 per cent of the total Plan expenditure (*i.e.* about 0.2 per cent of the G.N.P.) it should reduce population growth by 1 per cent a year and sustain the fertility reduction already achieved in the Third Plan. Without this programme, *per capita* income growth would be reduced by 1.5 per cent a year. Given these benefits there is every argument for pushing the family planning programme as quickly as possible. By the end of the Fourth Plan, it is hoped that a third of the population will be practising family planning, which indicates that it will not even then have been extended to the limits of absorptive capacity.

16. Malaria eradication is also a programme with a high benefit-cost ratio. It increases both life expectancy and working capacity, and has already reduced the incidence of malaria to very low levels. The programme is now in a consolidation stage and covers 90 per cent of the populated area; further, big increases in spending are not necessary except on urban drainage and sanitation.

17. The weakest part of the social services is the provision for general health care, both preventive and curative. In Pakistan, total current spending on health (both public and private) is about 1.5 per cent of G.N.P. (10 rupees a head) compared with 5 per cent in the U.K. (500 rupees a head). The major gap is in facilities for the rural population who are only sparingly served by rural dispensaries and health centres. There are almost no doctors in rural areas and probably three-quarters of the rural population have no access to modern health facilities at all. Most of the hospitals and doctors are in urban areas, where the major beneficiaries are the relatively richer part of the population. In the Fourth Plan period, public capital expenditure on general health services will rise by 571 per cent. This is by far the biggest increase

proposed within the social services, and implies correspondingly a big increase in current public spending on health which is being provided in the non-development expenditure. The two biggest items in the programme are: (a) new network of multipurpose rural health centres, staffed largely by paramedical workers and auxiliaries which will provide curative and preventive facilities and carry out public health and sanitation work; (b) a new network of hospitals to provide referral centres for the rural health programme in small towns and to improve existing health facilities for urban dwellers. The biggest problem in implementing this programme will be in training paramedical workers, auxiliaries and nurses, who are at present much scarcer than doctors. It is hoped that by the end of the Fifth Plan, every union council in the country will have a rural health centre. This is by no means an extravagant programme. The fact that it looks so big in the Fourth Plan is simply a reflection of our neglect in the past.

18. The Fourth Plan proposals for education are the outcome of more extensive public discussion and preparation than those for other social sectors. There has also been a larger and more explicit recognition of the virtues of education as an investment in human resources. The public commitment to education is greater than in health. Only a third of health expenditure is covered by central, provincial and local government, and the rest is private, whereas about three quarters of educational spending is covered from public funds. However, the backwardness of Pakistan is almost as great in education as it is in health. The first priority must be to extend the base of the educational pyramid so that all children get a chance of going to school. Only in this way can we tap the intelligence of our population fully for productive purposes and promote social mobility. The productivity benefits are likely to be highest from improvements in primary education, and it is the cheapest form of education.

19. In secondary and higher education, primary emphasis must be on the quality and economic relevance of the training rather than on bigger enrolments, because we are already producing too many people whose employment expectations cannot be met. In some cases, higher education is a substitute for a job rather than a preparation for it. Therefore, the scientific and technical element must be greatly strengthened, the stress on rote learning and examinations reduced, and analytical capacity and imagination stressed. We must increase respect for manual labour and industrial skills, and find means to identify the educated elite with the masses, through programmes for national service.

20. One of our major social problems is rapid urbanisation. The urban population is growing by 6 per cent a year, and this growth rate is likely to continue to increase, however successful our programmes for family planning and agricultural development. We now have 21.5 million people living in towns of more than 5,000 population. In thirty years, there may be 100 million. It is, therefore, necessary to create a suitable machinery for regional and urban planning now, not only to provide amenities, but to link industrialisation and physical development and to decide on appropriate locations for urban development. We must also ensure that our tax and subsidy structure does not distort locational patterns.

21. In urbran areas, *per capita* costs for amenities and housing are much greater than in the countryside. This is partly because urban dwellers have higher living standards, but it also reflects the extra needs of high density communities. In Pakistani villages, housing costs Rs. 0 *per capita, i.e.* the average house costs Rs. 350, and provides shelter for 5 or 6 people. The provisions for piped drinking water, sanitation and drainage is negligible and probably averages only 1 or 2 rupees per head. Given the poverty of the coun-

try and other pressing social needs, there is no immediate possibility of an adequate government programme for rural housing, although we can promote the use of improved building materials and designs. However, a good deal can be done to provide villages with tube-wells and public standposts for drinking water, community latrines, and subsidised and standardised private latrines. There is provision of Rs. 100 million in the Fourth Plan for this purpose, and it should have very significant results if accompanied by sanitary inspection and public health propaganda in rural health centres, and by toilet training and a school health service in village schools. By such programmes, we can reduce the incidence of dysentery, typhoid, intestinal worms and hookworm which are endemic in rural areas.

22. In urban areas, the average cost of housing is probably about Rs. 400 per head. But this relatively high figure is due to the fact that nearly all prosperous families live in towns. About a third of the urban population lives in housing which is no better than the average for rural areas. The cost of urban amenities is probably around Rs. 60 per head, but these are heavily concentrated in wealthy suburbs, contonment areas, satellite towns etc. The meagre supply of drinking water, drainage and sewerage is a major reason for the poor state of public health and the frequency of intestinal disorders, typhoid, etc. It is necessary to improve these urban sanitation facilities considerably if the health programme is to be successful. In fact, there are several long range schemes for urban water supply and sewerage on which the amenity allocations in the Fourth Plan are based. A considerable effort will also be needed to increase provision for public latrines and sewerage, to improve hygiene in markets, to eliminate rodent and insect pests, and to check the entry of animals to towns. But if the programme is to be implemented rationally, it is essential that the system of services charges be drastically overhauled so that at least the more prosperous consumers pay the full economic cost of water as well as the cost of sewerage and drainage which increased water supply entails. For a good part of the urban population the water supply system will continue to operate through public standposts as they will not be able to afford piped water in their homes.

23. As far as housing is concerned, Pakistan has a gigantic problem. It is estimated that 1.5 million urban dwellings are below tolerable levels and during the Fourth Plan housing will be needed for an additional 1.3 million urban households. In previous experiments with low-income public housing for refugees from India to the Karachi area, construction cost per family (in 1963-64) was about Rs. 4,000 excluding all land and utility. Including land and local utilities, it was Rs. 6,000. At present prices, the cost of construction and local amenities would probably be Rs. 7,500 for this type of residential unit. Thus the total cost for 2.8 million families would be Rs. 21,000 million. This is much more than can be allocated. Furthermore, this may mean putting a large number of people into houses they could not afford to maintain. This has already happened in several of the previous experiments in low income housing. It would help if we had designs for public housing which were more economical, *i.e.*, which cost Rs. 2,000 instead of 7,500 rupees, but this would still be too costly for a mass programme. In the Fourth Plan, it is only possible to provide Rs. 1,500 million for public housing. Some of this will be subsidised housing for a few selected low-income households, but a good deal of the money will go on housing or plots to be rented or sold at commercial rates. By participating in building activity the government can influence the pattern of urban development and architectural design. Houses built with public funds will be of a modest size, and suitable for the future needs of low-income groups. It is also necessary to discourage construction of luxury housing. We should now begin to mould the pattern of house-building towards our future social needs even if we can do little to improve the housing standards of the mass of today's population.

24. In the Fourth Plan, allocation for "Social Welfare" are proposed to be greatly increased, and the concept of social welfare widened considerably. This is not simply a programme to help the handicapped and the under-privileged but is designed to improve the social, cultural, and recreational content of the common man's life. This programme is to be dovetailed with the urban works programme so that among other things, popular culture, parks, and public entertainment are provided and slums improved.

25. The cost of providing employment through modern industry, construction activities and the like for all the unemployed and under-employed would be prohibitive. Accordingly, we embarked on the rural works programme as a specific means of providing employment at a low cost per worker. This was initially done during the slack season for agricultural workers, but this experience can now be transplanted in urban areas, in addition to expanding its scope in rural areas. The works programme, apart from being a dignified substitute for unemployment relief, also provides improved irrigation, drainage, flood control, and roads. The initial social and productive motivation can now be more carefully geared and coordinated with other policy objectives, particularly with scheme for sanitation, housing, health and social welfare.

26. Almost 80 per cent of the population of Pakistan lives in rural areas. Their conditions in many respects are worse than the urban population. Due to lack of education, ignorance of basic principles of sanitation and lack of communications, they suffer from many ills that have been overcome in urban areas. Proper relief for this important part of the population has to be the basic element of Social Policy in Pakistan. The programmes in the social sectors, therefore, have been formulated in such a way that the rural population get their due share of the total benefits. Out of the total allocation of Rs. 2,450 million for the Works Programme, Rs. 2,020 million or 82.5 per cent of the total will be spent in the rural areas. Out of 27,400 primary schools to be constructed during the Plan period, 80 per cent are expected to be located in the rural areas. A major portion of the funds for scholarships is for students coming from rural areas. In the health sector, a sum of Rs. 610 million has exclusively been earmarked for rural health programme besides a sum of Rs. 262 million for the Malaria Eradication Programme which is carried out mostly in rural areas. In addition, the effect of programmes in agriculture, water, transport and power sectors will benefit the rural population. These measures may not eradicate all the problems facing the rural population but an effort has been made to divert a significant part of services being provided in the Fourth Plan to the rural areas.

27. No discussion of social policy can be complete without forcefully stating that Government resources for providing social amenities at an adequate level would continue to be limited in the foreseeable future. The responsibility must be shared by private sector through voluntary effort. Private entrepreneurs can and should contribute a great deal more by undertaking programmes for the welfare of labour employed by them. On a much wider scale relatively better-off elements of society should join community effort to improve the environment of life. Self-help and voluntary contribution of money and effort would be needed on a much larger scale than has been possible so far to supplement government effort outlined in this chapter for improving the quality of life on a national scale.

CHAPTER 12

EDUCATION AND TRAINING

Introduction

Education has been traditionally regarded as a social obligation. More recently, it has come to be seen as an essential pre-requisite in the process of development. Countries that have made rapid economic and social progress are significantly those that have devoted a great deal of attention to education, training and research.

2. The development plans of Pakistan have increasingly been based on the concept that education is a vital national investment and a major determinant of economic progress. The priority accorded to education in the drafting of plans, however, has not always been reflected in the implementation of plans. Required funds have been denied to the Education and Training Sector because of pressure for resources in other economic sectors. This was particularly the case in the Third Plan, when a combination of adverse circumstances made it necessary at the very inception of the plan to divert investment from long-gestation to quick-yielding programmes. The result has been that just when our economy, having completed its preliminary stage of industrialization, was entering a more sophisticated stage and making greater demands on its trained manpower, the country found itself faced with a serious imbalance between manpower needs and education output. Large scale unemployment not withstanding, there are shortages of skilled manpower in fields that are critical for development. The educational base remains narrow, since only 18 per cent of the population can be regarded as litereate. The percentage of drop-outs and failures continues to be wastefully high.

3. To eliminate these deficiencies and to obtain better yields from development of human resources, it is necessary in the Fourth and future Plans not only to spend more money on education, training and research, but to spend it more effectively. Nor should we lose sight of the fact that education does not mean merely the acquisition of textbook knowledge but necessarily implies the developping of many new and sophisticated skills, alongside with those mental attitudes that make the difference between a stagnant and a progressive society. With a view to correcting the major deficiencies of the system of education, the Government has announced a New Education Policy—a statement of national goals indicating the directions in which the country must go forward. The Programme in the Education Sector of Fourth Five Year Plan has been designed within the broad framework of the New Education Policy. Its main objectives are :—

(*i*) to create a literate population and an educated electorate by mobilising the nation and its resources;

(*ii*) to make the educational system more functional in terms of its contributions to productivity and economic growth ;

(*iii*) to remove the existing diparity in education services among the rural and urban population ;

(*iv*) to recognise the paramount importance of quality in education and the crucial role of teachers in raising standards of instruction ;

(*v*) to make optimum use of the available resources including physical facilities, at all levels and

(*vi*) to strengthen and consolidate the programme of educational research and development planning.

Past Performance

4. The First Plan identified deficiencies in the educational system and suggested programmes to re-build it on sound lines. The Second Plan recognised the importance of education as an essential element in the economic and social growth of the country and highlighted it importance by allocating a sizeable amount of money for educational development. Considerable progress was made in all sectors of education and an appreciable momentum was gained in implementing development programmes. Most of the Second Plan targets were either achieved in full or exceeded ; financial performance was over 96 per cent.

5. The Third Plan provided for an educational programme which was two and a half times the size of the programme implemented under the Second Plan. The main features of the proposed programme included : broadening the base of education by making substantial expansion at the primary level, accelerating the development pace of technical education and improving the quality of eudcation at all levels with emphasis on science subjects. At the initial stage, however, because of the war with India, the priority of education had to be put at a lower level than stipulated in the Plan. The result was that in the first four years only about 50 per cent of the total Plan allocation for education could be earmarked in the Annual Development Programmes. Actual utilization of funds was even lower. Shortage of resources to meet expenditure on salaries of new teachers, non-availability of foreign exchange resources to meet the requirements of scientific and technical programmes, lack of appropriate machinery for undertaking timely action for implementing development programmes and non-release of funds earmarked in the Annual Development Programme for educational development are some of the constraints that need to be mentioned. Notwithstanding the large increase of allocation to Education Sector in the last year of the Plan, the total expenditure was about 56 per cent of the revised allocation of Rs. 2,374 million. The percentage utilization in East Pakistan, West Pakistan and the Centre is estimated to be 60, 48, and 70 respectively. Performance in physical terms for the two Provinces varies in almost the same proportion.

6. In East Pakistan the achievement of targets of enrolment at primary and middle stages has been 70 and 125 per cent. The enrolment at high and intermediate stages increased by about 100 per cent over the enrolment of 1965 and at degree level it increased by about 130 per cent. In West Pakistan the enrolment targets of the Plan at primary and middle stages have been achieved to the extent of 37 and 50 per cent respectively, at high stage the enrolment increased by about 50 per cent, and at intermediate and degree stages by about 60 per cent each, over the enrolment of 1965.

7. A significant feature of the development at secondary and college level is that while the Plan programmes have been implementaed only partially, the number of schools and colleges in the private sector has increased much beyond the number visualised in the Plan. During the Plan period the number of junior/ middle schools and high schools increased by about 800 and 1,400. The number of intermediate and dgree colleges increased by about 100 and 80 respectively. While about 25 per cent of the increase in the number of high schools and colleges is covered by Plan programmes, the rest of the institutions have been established in the private sector outside the Plan.

8. There was a considerable imporvement in the rate of retention at the primary stage. The retention rate in East Pakistan increased from about 25 to 35 per cent, and in West Pakistan from 50 to 55 per cent. At the secondary and college level, enrolment of science students increased by about 100 per cent during the Plan period. However, the impact of these achievements has been off-set by other unfavourable conditions. At the primary level, the expansion in enrolment has not been accompanied by apppoinment of an adequate number of teachers

In East Pakistan, the number of teachers has increased by about 15,000 against the enrolment increase of 2.14 million, resulting in an increase in pupil-teacher ratio of rather startling proportions. In the private sector, outside the Plan, enrolment of arts students doubled with the result that the overall ratio of sicence and arts students remained almost at the level of 1965.

9. The Third Plan technical education programmes provided for large expansion and 26 per cent of the total Plan allocation was earmarked for this purpose. Progress in technical education has been comparatively slow because the total Plan programme was in the public sector and the contribution of the private sector in this field was almost non-existent. Lack of adequate financial resoruces in the earlier years of the Plan period prevented timely completion of most of the projects. Polytechnics and vocational institutes, which were to start operating within the Plan period were not completed and only limited expansion could be made in the training programmes of technicians and skilled workers. At the diploma level the targets of admission and enrolment were attained to the extent of 57 per cent and 67 per cent respectively ; for skilled workers the corresponding percentages were 18 and 20. The targets for intake and output of engineers were attained to the extent of 80 and 90 per cent respectively. This was possible because of the physical facilities provided during the Second Plan. The progress in engineering education at the university level was generally very slow. Although the two existing Engineering Universities were chartered under the Second Plan, the enrolment at the post-graduate level was only about 100 by the end of the Third Plan.

10. The programme of scholarships made good progress. The number of students covered under this programme increased from 42,000 in 1965 to about 70,000 at the end of the Third Plan, and the annual expenditure on scholarships increased from 21.0 million in 1965 to 37.0 million in 1970. A very large proportion of additional scholarships went to students of sicence and technical subjects. The total expenditure on scholarships incurred under the Third Plan constitutes about 80 per cent of the Plan allocation.

STRATEGY AND PRIORITIES

11. The major strategy of the Fourth Plan is to check the unrestricted growth of traditional education, to make the system of education more functional with respect to the future needs of the developing economy and to create a system of education and training that reflects an economically sensible distribution of resources among its component parts.

12. Primary education is at present available to about half of the nation's children. The number of illiterates is rising in excess of 1 million persons a year. Mass illiteracy blocks economic and sodcial progress and a nation has to pay heavily for it in every direction. Apart from the fact that free primary education is a fundamental human right, it is by far the cheapest kind of education and its benefits are widely distributed among the entire nation. Empirical tests in Pakistan industries have shown that there is a very large difference in the productivity of literate and illiterate workers. The pay-off in investment is bound to be greater in primary education than in general secondary and higher education where there is already a surplus of graduates in search of employment. The problem is to increase the size of the primary education programme substantially while at the same time seeing that primary school completers in large numbers are diverted into economically useful kinds of training.

13. The development of primary education is invariably linked with education of the adult population and the widespread attainment of functional literacy. The concept of adult education has acquired a new significance. As the country is striving to achieve economic development and social transformation, it has

frequently to call upon the adult population to have an understanding of the technologically-advancing world. Active, willing and intelligent participation of the adult population in development programme is, therefore, of crucial importance.

14. Resources allocated to education services during the previous Plans were not sufficient to create a base for any massive programme of adult education. The main strategy for attaining functional literacy of the masses is therefore, to concentrate on accelerating the growth of primary education. This implies an intensification of efforts to obtain universal retention in the primary institutions. As the Education Policy stated, an element of compulsion should be introduced in the elementary programme. In areas where sufficient number of schools are in existence, legislation will be drafted to enforce regular attendance of children enrolled in Class I right up to the completion of Class V.

15. There will also be an intensification of efforts to produce functional literacy by means that lie outside the primary school system. For the training of employees the cooperation of all large employers in both the public and private sectors will be obtained in setting up in-plant programmes of functional literacy. The duration of these courses will be one year for each group of workers enrolled. In addition, as indicated in the Education Policy suitable institutional arrangements will be made and a National Education Corps will be established on a feasible basis to reach those young people in rural areas who do not have any chance to receive formal education in the primary schools.

16. The strategy for secondary education should be governed by the needs of trained manpower. While the development of secondary education at the middle stage will keep in view the increasing flow of pupils coming through the expanded system of primary schools, at the high stage the overall expansion will be geared to equipping the youth with adequate knowledge and skills for productive participation in the labour force. In the past, too much emphasis in education was placed on preparing people for desk work occupations in the services sector of the economy and too little on preparing people for occupations in agricultural and in manufacturing industries. Few facilities at present exist for providing young people training in crafts and trades directly associated with rural life and the agricultural economy. The need for functional bias during the secondary level will be met in part through integrating pre-vocational training in the general education system up to middle level, a stage which will administratively continue to be a part of secondary education for some time to come. Emphasis will also be given to improve general, scientific and mathematical courses in secondary schools. As only one fifth of the matriculates at present offer science in their examinations, the country's labour force lacks flexibility and capacity to adapt tonew technologies. The need to provide laboratory facilities, suitable textbooks and qualified science teachers is urgent. Orintation and development of curricula towards scientific, technical and vocational education as well as services such as guidance and counselling for directing students to the courses according to ability and aptitude will be undertaken.

17. The secondary level represents terminal education for many students and college preparation for many others. Both groups have one important thing in common : a need for good instruction in science. The rising need for middle-level skilled workers in the developing economy of the country and the enrolment of a growing proportion of the age-group in secondary schools warrant that the curriculum should have a pronounced vocational and technical bias. Sciences form an integral part of courses in vocational and technical fields. The quality of instruction in science at the secondary stage determines how well college students can receive instruction in that field. To correct the imbalance between the humanities and the sciences in the college curriculum requires that an adequate base of the scientific way of thinking be laid in the high schools. Accordingly, it is intended

to achieve a ratio of 40 : 60 between the general secondary on the one hand and the science technical and vocational stream on the other. This shift is to be accomplished at the same time that the quality of science teaching is improved.

18. While the pace of progress with regard to primary education will be accelerated for attaining the goal of universal education by 1980, admission in secondary and higher education will be selective, at least in all State-financed schools and colleges. As announced in the Education Policy, merit shall be the basis of selection. Ability is distributed in all social and economic groups. A scientific system will be developed for making the right selection. Furthermore, the existing disparity between the quality and standard of schools has widened the gulf between the rural and urban areas. The major shift of emphasis should, therefore, be to expansion and development of schools in relatively under-developed areas with a view to reducing the existing imbalances. This would help strengthen national consciousness and unity by providing equal opportunities for all irrespective of place of birth.

19. There is universal agreement about the increasing importance of technical and vocational education. The Fourth Plan will necessarily incorporate the major shift towards technical and vocational training. This kind of training should, however, be designed to meet the most specifically identified needs of the economy. Otherwise, resources will be wasted and there will be disillusionment among the technical graduates as there is today among the arts graduates.

20. Most of the technical programmes have so far suffered from lack of qualified teaching staff and foreign exchange for the purchase of equipments and books. It is, therefore, essential that within the sub-sector of technical and vocational education, highest priority should be given to a substantial improvement in the training of teachers, including teachers of agriculture and of arts and crafts and technicians. The quality of teaching is the single most important determinant of the performance of education and training institutions. There is acute shortage of teachers in existing polytechnics and technical institutions and the number of vacancies in such institutions is constantly on the increase. The existing vacuum in the field of training teachers for Polytechnics and vocational schools has to be filled by establishing an adequate number of training institutions in the country.

21. Expansion in the field of higher education should be guided and planned broadly in relation to manpower needs and employment opportunities. While the peramount importance of quality in higher education is well recognised and large investment is required in this area of reform, necessary measures will have to be adopted for arresting unregulated expansion. Percentage of failures in all public examinations is extremely high. Besides this large waste of public resources in terms of failure, the incidence of unemployment among graduates is very high and the number is increasing at an alarming rate. Consolidation and qualitative improvement should, therefore, be the keynote of all future developments. A bold and pragmatic approach needs to be adopted in raising the productivity of the education system. Higher education is an expensive item and is largely subsidised by the State. It is, therefore, necessary to ensure that the investment made in that field yields the maximum result. Although the social demand for higher education is likely to be much larger than the provision made in the Plan, the situation can be met by introducing a system of selectivity at the time of admission in all institutions of higher education. This is the common practice even in economically advanced countries. Raising of admission requirements for higher education is necessary to reduce wastage of resources on drop-outs and failures. In the institutions directly financed or subsidised by the State, admission should be determined on the basis of places available in a particular institution in relation to teachers and physical facilities to ensure a minimum standard and

quality. No restriction will be imposed on others seeking admission in self-financed institutions. It will, however, be necessary to adopt some policy measures to fix educational output and minimum standards at the college and university level for assessment of government grants. It is extremely important that colleges should be closely inspected and grants-in-aid made conditional on the establishment of adequate standards of instruction.

22. It may reasonably be expected that the universities make substantial contribution towards finding solutions for the social and economic problems of the country. There is a need for high quality applied research activities in all the universities. The expansion of existing universities during the Fourth Plan will be mainly for the objective of raising standards and output of research activities, and improvement of facilities in scientific and technological fields.

23. As stated in the Education Policy, it is required that there be a planned programme of university expansion to yield a more equitable distribution of universities in the different regions of the country. Since the universities are financed almost entirely by the State, the Central and Provincial Governments will retain a major role in university planning. The Provinces will consider whether to delegate some of their powers over these institutions to a University Grants Commission. The concept of associating a university with the raising of prestigious buildings has no place in a developing country. If any money can be saved on account of economy in construction of buildings, it should be diverted to primary schooling for the children of the country's millions.

24. A very high priority is required to be given for improvement in the distribution of educational opportunities. Efforts to achieve a more equitable distribution of educational benefits will be consistent with economic objective and national ideology. The present programme of scholarships will be re-examined and considerably expanded to provide additional facilities for expansion of science and technology and to ensure educational facilities for vocational training.

25. The importance of maintaining good statistical services for the purpose of educational planning, has been recognised throughout the world. Educational statistics in Pakistan suffer from a number of limitations with regard to coverage and accuracy. A number of departments and agencies collect data on the educational system almost independently. There is a complete lack of coordination between these agencies, and the scope, criteria and definitions used, and the purpose for which these data are collected, vary widely. The estimates and forecasts made on the basis of such inaccurate data have been occasionally so high that the targets have seemed to be non-attainable. These agenies should be co-ordinated in such a way that they provide adequate information for planning and Plan implementation. The Bureau of Education under the Ministry of Education and the two Bureaus under the Provincial Departments of Education will be considerably strengthened. Similarly, the Institutes of Education and Research at Dacca and Lahore will be expanded and adequate funds will be placed at their disposal to undertake extensive research work.

26. The evaluation of the previous plans indicates that over emphasis on achievements of physical targets such as in enrolment and expenditure often leads to the neglect of the important aspect of quality. In the face of limited resources, however, top most priority will have to be given to the establishment of operation-oriented programmes of research and evaluation of the educational and training facilities. It is necessary to make quantitative estimates of resources in education and training activities and to measure educational outputs quantitatively. It will be equally important to regulate flows of educational resources under cost-effectiveness criteria. It should produce substantially greater value to regulate investment in

education by making quantitative estimation of cost versus yields. High level research activities will be organised to conduct analytical studies of educational problems. Applied research will open the way to the establishment of a more geographically decentrailsed educational system, under which schools and training programmes will be functionally related to local demands for services and to local patterns of employment, migration and community life generally. It is, therefores imperative to develop a strong research programme which may be helpful in cuttin, down the overall cost of the education programme and increas ng the effectivenesg of the educational investment. Adequate funds will be provided for research programme in the field of education. The Institutes of Education and Research at Dacca and Lahore should be provided means to undertake relevant studies, using computer-based models of analysis, where appropriate.

27. Research and evaluation activities in education begin through the establishment of an enquiry system. Such a system should obtain, from each institution, data on the characteristics of students in the institution and their academic achievements, data on the resources of revenue of the institution and on the functional allocations of expenditure. It also seeks information as to what happens to students in their future academic and work career after they leave a given school or college. A properly functional enquiry system will be established during the Fourth Plan for effective planning and plan implementation. Resources will also be provided for under-taking a ground survey of the educational system in the country.

28. The fact that the quality of education is deteriorating, can hardly be challenged by any one. The teaching profession has considerably suffered as it could not attract the best talent because of the poor pay scale, limited prospects of promotion and insecurity of service, particularly in private institutions. No one can deny that the success of any system of education depends upon the quality of teachers. Efforts will be concentrated on improving the quality of teaching and on making adequate provision for training of teachers at all levels.

29. One of the essential elements in improving the quality of teaching is to afford higher status to the profession. Status is largely determined by the earning capacity, *i.e.*, the salary scales of teachers. The Education Policy has emphasised the urgent need of improving the salary scales of teachers at all levels. The Provincial Governments have accordingly introduced new pay scales for teachers in all Government institutions. Necessary measures have also been adopted to protect the rights of teachers working in non-Government institutions and to ensure that adequate financial benefits of the new pay scales are provided by the management. An amount of Rs. 100 crores has been provided in the recurring expenditure of the Fourth Plan for meeting the extra expenditure on account of enhanced pay scales of teachers.

30. It is not likely however, that higher pay scales alone will produce the desired amount of increase in teachers' productivity. In other factors affecting output are (a) the assurance that promotion and other awards are based on real merit and not entirely on seniority and (b) an adequate supply of instructional material books, manuals, laboratory supplies, access to a typewriter and a duplicating machine, etc.

31. The present policy of provincialization of schools and colleges under the development programme will be reviewed. There is some question about the wisdom with which the policy of provincialization is being applied. In general Provincial Governments have tried to take over stronger institutions. The Policy in future will be to attack the problem of raising the floor of institutional performance by giving incentives to small and weak units to consolidate into units of efficient size and by taking over institutions that cannot be expected to become

efficient if left to the private sector under any conditions. The stronger institutions will be provided with incentive grants to raise their standard of performance even higher, but they will remain in the private sector under the decentralised system of administration as provided in the Education Policy. While large-scale provincialization is not necessary, a number of well-established institutions may be placed under autonomous bodies. Indeed, all institutions, Government and private, from the secondary level upward will have Governing Bodies/Advisory Bodies, with appropriatc representation of Government, parents, teachers, and founders/donors.

32. It has been observed time and again that educational administrators are too much involved in matters which could be easily delegated to officers at much lower level or to the local administration. Failure to delegate authority and responsibility effectively, has buried the top administrators under an unnecessary load of administrative duties. As a consequence those who can provide the right kind of leadership seldom find time to make a real contribution to the solution of important educational problems. Close involvement of local communities with schools is of great educational significance. The concept of educational administration will be reviewed and the present system of management of educational institutions replaced by a more democratic decentralised administration.

33. The Provincial Governments will consider the desirability of setting up District School Authorities and Zonal College Authorities as autonomous bodies with full powers of administration of all educational institutions under their jurisdiction. The main purpose of the creation of District School Authorities will be to allow local participation in the management and administration of schools. An administrative district, however, covers a large area having approximately 2000—4000 schools and colleges. In order to assist the District School Authorities and to ensure local participation, advisory committees will be established at Thana/Tehsil level in East and West Pakistan respectively. While the Thana/Tehsil Committees may function as sub-authority for management of primay schools, the District School Boards and Zonal College Authorities may administer high schools and colleges respectively. The proposed autonomous bodies for administration of schools and colleges may have powers for devising means for raising funds to finance educational programmes. They should also have adequate inspecting and supervisory staff either by direct appointment or by loan of officers from Government Departments on long deputation.

34. An important task during the stage of implementation will be to create an efficient machinery at different levels for proper planning. An assessment of the situation indicates that although planning activities have expanded considerably since 1965, the machinery for educational planning and administration has not proportionately developed creating a kind of imbalance between planning and actual implementation. Success of any plan will largely depend on systematic preparation of projects, their timely processing, efficient implementation, evaluation and systematic reporting. There is an acute shortage of staff and trained personnel at the district, provincial and central levels to deal appropriately with educational planning and administration.

35. It is important that those who are recruited to the higher posts in the educational set-up should be persons of high calibre to provide necessary leadership and direction. Facilities for training of high level educational adminstrators and planners do not exist and pre-service training for such officers is not possible. Facilities for in-service training of senior level administrators and planning officers should be provided during the Plan period. There is enough justification for establishing a National Institute at Staff College level for training of such officers.

36. Continuous appraisal of existing contents of studies, teaching methods and books, should necessarily be made during the Plan implementation. The existing set-up both at the Provincial and Central level needs to be re-organised and adequately strengthened with trained and specialised staff. Each Province should have a permanent Bureau of Curriculum Development to provide such appraisal and to coordinate the activities of the various agencies that are involved in curriculum review, such as Teacher Training Institutions, Text-book Boards, and Secondary Education Boards. About two per cent of the total resources allocated to education will be spent on research, ground survey, feasibility studies and staff for planning and implementation.

37. The curriculum of primary and middle schools will emphasise basic linguistic and numerical skills ; basic manual skills will also be imparted, both for their intrinsic worth and for the effect this may have in reducing aversion to manual work. The teaching of fundamental concepts of science will be introduced in the primary grades to help develop the analytical and problem-solving capacity of the students. Likewise, the curriculum at the secondary level will be redirected towards manual skills, technical subjects, and science. Physical education and sports will form an integral part of the educational programme at all levels.

38. Textbooks represent an important point of leverage in raising educational quality and in making the processes of schooling less wasteful. Highly skilled writers will be engaged under contract to devote their full time to producing text-books that are effective and imaginative ; they will be adequately compensated even high salaries are economical in this case because of the massive distribution that good text-books enjoy. More than one text on a given subject will be permitted. Private publishers will be allowed to print texts. They will be encouraged to produce teachers ' manuals and students' workbooks.

39. It is important to consider whether Government alone can meet the enormous cost of education from its normal revenue resources. It is well-known that in the past private sector played an important role in the field of education, but the effectiveness of this well-established tradition needs to be re-examined. The private sector is responsible for the large share of general education between the level of primary school and the level of university education. In East Pakistan, of 1780 junior high schools only 5 are Government run so over 99 per cent of middle schools education in that Province is private. 95 per cent of high schools and Arts Colleges are privately administered. In West Pakistan the situation is not so extreme, but private education is none-the less significant. About 25% of the middle schools, 67% of the high schools and 53% of the colleges are under private management. The policy under the Fourth Plan will be to encourage private sector investment on education by introducing a more liberal system of subsidy to educational institutions managed privately. This step may also lead to equalising educational opportunities in the rural and urban areas and discourage the large movement of rural population to the big towns and cities.

40. Whereas most of general education above the level of primary schools is handled by the private sector, most of the formal specialised education in such fields as technical training, engineering, agriculture, business and medicine, exists in the public sector. Yet, it is known that specialised education offers high financial returns to the students who receive it and the empolyers who hire the students. As a counter-part to the future policy of Government's taking greater responsibility in providing formal education to the masses, private agencies—employers, professional groups, foundations and students should carry a larger share of financial responsibility in specialised education and also a certain share of the cost of developing functional literacy of workers. More specifically, as announced in the Education Policy, employers, including Government employers, are expected to provide

training courses in functional literacy. The Education Policy also states that consortia of employers in the industrial sector will establish training institutions in various fields of technology.

41. Government, for an indefinite future, will continue to rely on the assistance of local administrations and private bodies to provide funds for raising school houses. Otherwise, the physical targets in general education cannot be met. Likewise, the amount of money Government can provide under the heading of scholarships is not unlimited. As indicated in the Education Policy, a comprehensive loan system will be arranged to help qualified students obtain assistance in meeting school and college fees and living costs. The possibility of adjusting fees in accordance with the size and income of the students' family will also be studied.

42. During the Fourth Plan, grant-in-aid arrangements will be thoroughly reviewed. Government money should be distributed so as to build strength in schools and colleges under a planned programme. Other countries have been experimenting with "performance granted", under which funds are paid out in relation to outputs obtained. This means of revising grants-in-aid, along with other adjustments, will be explored.

43. In operating educational institutions, there is a strong case for providing the simplest and plainest kind of funcational buildings. Under-utilization of physical facilities in some areas would mean wasting much needed resources for other important programmes of education. There is scope for intensive utilization of the facilities already provided in some institutions particularly at the level of technical and higher education. A thorough analysis of the cost-effectiveness of the existing plant utilization in the field of education will be carried out during the Fourth Plan, with a view to ensuring optimum use of physical facilities.

MAJOR PROGRAMMES AND PHYSICAL TARGETS

44. The programmes of Education and Training included in the Fourth Five Year Plan have been drawn up to match the physical targets of the New Education Policy. The Plan allocation for Education and Training is about 180% higher than the amount spent under the Third Plan. Yet, it is not likely that the physical targets proposed under various programmes will be achieved unless backed by adequate financial support from the private sector.

45. Distribution of resources made and physical targets indicated in the Plan are on the basis of East Pakistan, West Pakistan and Centre. In the absence of adequate statistical information, it has not been possible to indicate separate programmes for the newly created provinces of Punjab, Sind, NWFP and Baluchistan. Detailed programmes will, however, be worked out subsequently and will be incorporated in the Annual plan.

46. Attached tables I—IV indicate relative priorities in resource allocation in various sub-sectors, and extent of proposed expenditure both developmental and recurring ; tables V and VI show the rate of growth in enrolment in major sub-sectors and growth of population on various school-age groups in Pakistan and Provinces ; tables VII-X indicate bench-marks and physical targets for the Fourth Plan and tables XI—XIV compare the financial pictures of the Third and Fourth Plans.

Primary Education

47. An assessment of the situation indicates that the attainment of the goal of universal primary education has receded with the lapse of time and Pakistan today has one of the highest rates of illiteracy in the world. During the period

1951—1970 the percentage of children attending primary schools increased from 33 to 50 showing an increase of 17 per cent over a period of 20 years. The base of primary education is too inadequate either to provide facilities for universal education or to ensure lasting literacy. In order to provide for universal primary education up to Class V by 1980, the Fourth Plan programmes will be set to accelerate the growth by large expansion and qualitative improvement.

48. It is significant that in the past although there has been an over-all increase of expenditure in education, the total expenditure at primary level has considerably decreased from 41% in 1947-48 to 30% in 1967-68. If the developmental expenditure is taken separately the relative position of primary education will be equally bad showing a reduction from 17 per cent in the Second plan to 13 per cent in the Third Plan. The Fourth Five Year Plan will, therefore, give a high priority to primary education and a sum of Rs. 547 million will be allocated to it out of Rs. 3665 million for Education Sector as a whole.

49. Investigations carried out on the subject revealed that poor quality of education is responsible for over half the drop-outs in Pakistan. Hence, the emphasis at the primary level will be on raising teachers' salaries and overall quality improvement. Special measures should also be adopted to increase the enrolment and retention rate of girls. Education of girls will be given immediate and serious attention as the nation cannot afford to allow half the population to remain illiterate. This will be provided by setting up separate girls schools and giving extra incentives to encourage qualified women to work in the rural areas as teachers. The incentive will be in the form of special pay, housing facilities, etc.

50. The expenditure for construction of new primary school buildings should be reasonably shared by the Government and the local community as a general policy. A workable procedure and policy needs to be adopted to offer reasonable subsidies for raising new schools particularly in the rural and backward areas. In special cases new buildings may be put up largely at Government expenses if this is considered to be absolutely necessary to reach the target in a given area. Adequate subsidies will be given to municipal authorities to meet the special problems of primary education.

51. The real problem of primary education is not so much the provision of buildings and universal enrolment as the production of good teachers. Comprehensive and integrated programmes of improvement of text-books and instructional materials, use of new techinques of teaching, training of teachers and supervisory staff, will be given higher priority. The programme will also include bringing the school curricula in line with the needs of the environment provision of with adequate equipment and teaching materials.

52. Before launching a large scale expansion of primary education as envisaged in the Fourth Plan, a gorund survey of the existing primary schools should be completed. The survey should be carried out on an emergency basis for a correct assessment of the existing facilities with a view to designing the future programme for introduction of universal primary education by 1980. The financial aspect of the whole programme, administrative arrangement, local participation, available local resources, etc., should also be covered by the proposed survey.

53. By the end of 1970 about 10.5 million children will be on the rolls of primary schools—6.3 million in East Pakistan, 4.2 million in West Pakistan. The total number of primary schools in Pakistan is 70,000 of which 29,400 are in East Pakistan, 40,600 in West Pakistan. The Fourth Plan provides for 22,400 new primary schools in West Pakistan and about 5,000 in East Pakistan. Most of the schools in West Pakistan will be started as one-teacher schools to serve an area six times in size of East Pakistan and with scattered population. In absolute terms 2.8million new places

will be created in East Pakistan and only 2.3 million in West Pakistan, raising the percentage of primary age group enrolment from 55% to 67% in East Pakistan, 46% to 65% in West Pakistan. The actual achievement of physical targets with regard to primary education will be related to the number of primary school completers and not merely to the statistics in terms of money and total enrolment which normally include inflated enrolment of Class I. About 10,000 existing primary schools in East Pakistan will be provided with pucca buildings, equipment, etc. In West Pakistan 15,000 primary schools will be improved under the development programme by providing equipment and teaching aids. Implementation of the programme will require 1,55,000 new teachers.

Adult Education

54. A National Plan of education should give appropriate emphasis and make adequate provision for liquidation of illiteracy from the country. The importance of literacy in the economic, social and political life of the people need not be laboured. It is relevant however to realise the magnitude of the problem. Out of the estimated population of 133 million. there are hardly 25 million literates in the country.

55. It is intended that during the Fourth Plan all industrial establishments employing 200 or more workers will establish part-time intensive programmes in verbal and numerical literacy, with the content being related as closely as possible to the tasks performed by the worker and to his life in his home. Classes will meet at least three times a week for one hour. The centres both in the countryside and in the factories will be used permanently as a means for eliminating illiteracy and developing productive skills and an enlightened and scientific outlook.

56. It has been recognised that campaigns and literacy drives in the past failed to generate sufficiently sustained motivation and interest for the illiterate to become literate. The main reasons were defective teaching techniques, non-availability of suitable reading materials, and the inadequate administrative and organisational arrangements to cope with the challenging situation. Training of teachers for adult centres and production of reading materials will be adequately provided for.

57. The Provincial Governments should normally be the administrative and implementing agencies for adult education within their respective jurisdiction. But the Provincial Governments are not yet involved in a large way except that there are some adult literacy centres which have been functioning in the tarditional way and have not produced any perceptible results. The experiment made in Comilla on adult education has been a tremendous sucecess. It has proved beyond doubt that social effectiveness of adult education is considerably increased when it is linked with community development programmes which aim at developing communities through self-help. Rapid expansion of this programme is required. Appropriate agencies at the Provincial and Central levels will be set up for the expeditious implementation of the programme. It may also be necessary to establish at the Central/Provincial Government level and Advisory Council of Adult Literacy and Adult Education.

58. The organizational set-up for adult education will be oriented to meet the requirements of new Government policy to delegate increasing responsibilities to the local self-governing institutions at different levels. Such authorities should be directly asssociated with the functioning of the adult education project. Provincial Governments will have adequate staff under them to coordinate the activities and services of other allied departments. During peace time the Armed Forces of Pakistan may possibly play an important role in the field of adult education. These activities need also to be co-ordinated as component of the new programme for adult education and to form a base to create a National Educational

Corps. Voluntary organisations such as APWA, Rotary Club, Anjumans and Associations have also been doing some good work in the field of adult education. The services of these and other voluntary organisations and agencies have to be co-ordinated and properly utilised for achieving the common objective. It is intended that functional literacy will be imparted to 5 million adults and school leavers by the end of the Plan period.

Secondary Education

59. Existing secondary schools broadly fall under three categories. In the first category there are junior high/middle schools and high schools with national and regional languages as the medium of instruction. Superior type schools which include model schools, residential schools, cadet colleges, missionary schools and schools managed by autonomous organisations come in the next category. These schools generally provide residential facilities and teach through the medium of English. The maktabs and madrassahs, are in the third category. Their main emphasis is on the teaching of religion and allied subjects. The schools of the first category, which are managed by Government, local bodies and private organisations, generally charge very moderate fees and, hence, are open to students from all classes of the society. English medium schools generally charge high fees and, hence, are mostly open to the children of the higher income group. The madrassahs, on the other hand, provide educational facilities for those who desired to specialise in religious subjects. The three categories of schools tend to create different value systems in the society and have little in common with each other. In order that education serves as a unifying force, it is essential that the gulf existing between various types of schools is gradually narrowed down. An important step towards this end will be to evolve a comprehensive curriculum with a common base for all schools so as to allow students mobility from one type of secondary school to the other. While merit should be the only criterion for admission of students into the cadet colleges, model schools etc. financed by the Government, a scientific method of selection of students should be evolved to offer equal opportunities to students belonging to the different strata of society. It is highly desirable that a proper equivalance of the certificates issued by different institutions at the secondary level be established. It will be necessary to rationalize the programme of scholarships to offer full opportunities to the children of low income group and this will be possible only if the amount of the scholarship covers the entire expenses.

60. On the qualitative side, the problems of secondary education are even more complex. On the one hand, for the majority of students who eventually constitute the bulk of trained manpower, this is a terminal stage of education. On the other, it sets the tone of technical, higher and professional education, as it is on completion of education at this stage that students are primarily channelled to various branches of education. Education at this stage is also an important determinant of the quality of primary school, as most of the primary school teachers are drawn from secondary schools. These diverse functions of secondary education, make this stage strategically important.

61. For a long time our secondary education remained purely of a literary and academic character. All efforts in the recent past have, therefore, been concentrated on giving secondary education a completely new orientation. It is evident that by and large, secondary eduaction still remains of a literary and general nature. In secondary education the Fourth Plan objective will be to achieve an enrolment ratio of 40 : 60 between the arts programme and the scientific, technical and vocational programmes.

62. Existing secondary schools need to be renovated and strengthened appropriately and further expansion properly planned. As an urgent measure it is

necessary to vocationalise majority of secondary schools both in rural and urban areas by establishing optimum size institutions which would be more economical and efficient. Pre-vocational courses imparting basic knowledge of crops and crop storage, agricultural equipments, soils, seeds, rural carpentry, first-aid and nutrition will be provided as a part of the course.

63. The task, however, is not easy as more than 85 per cent (97% in East Pakistan and 67% in West Pakistan) of secondary schools are privately managed. A very systematic and cautious effort will, therefore, be needed to regulate development and expansion of educational facilities in the private sector. The failure of the Third Plan programmes to bring about perceptible improvement is mainly due to a large expansion of secondary education facilities outside the Plan. The emphasis in secondary education under the Fourth Plan, will essentially be on consolidation of existing secondary schools. The qualitative improvement will, for the purpose of development, be the first priority. The programme of diversified courses will be intensified to cover the proposed 40 : 60 ratio of enrolment at secondary level under a phased programme. All these measures are necessary to divert the present pressure of students from seeking admission to colleges and universities and to enrol them instead in vocational courses leading to better prospects for employment opportunities.

64. With increasing use of science based technology in most of the sectors of the economy, particularly agriculture, it is becoming absolutely necessary that most of the students study elective science, mathematics and other subjects of vocational importance. Hence, teaching of elective science and mathematics will be taken up with increasd vigour and essential facilities for teaching science at the desired level will be provided in the Schools. Rural high schools will be provided with facilities of teaching farm techniques and other related subject.

65. A major deficiency in the past has been the lack of adequate facilities in the majority of secondary schools, particularly in rural areas. For example, in East Pakistan out of 3,420 secondary schools, facilities for teaching elective science exist in 830 schools only. While expansion of education in arts should be limited, teaching of science and diversified courses including part-time and full-time vocational and professional training should be provided in secondary schools by a liberal allocation of resources. The objective of the Fourth Plan will be to convert, under a phased programme, a sufficiently large number of secondary schools to institutions producing youngmen and women who are employable and can be easily absorbed in the economy. Curricula of madrassahs will be broadened and modifed so as to allow teaching of science, mathematics and vocational subjects. It is expected that proposed changes in the teaching programmes of madrassahs will open up better job opportunities for their products. One major problem in implementing the proposed programmes will be the shortage of qualified and talented teachers, specially in science and mathematics and diversified courses. Proper incentives are being provided for science, mathematics and vocational teachers in the form of extra pay.

66. In terms of physical targets, the plan will provide educational facilities for one million additional students in Classes VI—VIII (equally shared between East and West Pakistan) against the enrolment of 1.94 million in these classes in 1970. At the high stage (Classes IX and X) enrolment is proposed to be increased by .35 million (shared equally by East and West Pakistan) against an enrolment of .77 million at the end of the Third Plan.

Teacher Education

67. The quality of education is linked very closely with the quality of teachers. Lack of adequate incentives has deprived the teaching profession of the

services of really able and talented people. Moreover, a large number of working teachers have either no formal training or have lost all contacts with recent advances in pedagogic techniques, new curricula and the new concept of the role of teachers. In East Pakistan about one third of primary school teachers are untrained, while in the Provinces of West Pakistan the proportion of untrained teachers is small representing only 5 per cent. The overall proportion of untrained secondary school teachers in East Pakistan is as high as 80 per cent. and about 90 per cent of the non-government secondary school teachers are untrained. In West Pakistan, the position is much better with about 85 per cent of teachers working in secondary schools having had some kind of professional training.

68. In addition to the improvement of Pay Scales of teachers, the Fourth Plan programme envisages early revision of the Curricula of training institutions and the provision of equipment and facilities essential for qualitative improvement. Adequate facilities will also be provided to meet the demand for additional teachers for the expanded system of education. The new pay scales introduced by the Provincial Governments will considerably improve the present situation as more talented graduates are now expected to join the teaching profession. Expert Committees will be set up to revise the curricula of Teachers' Training Institutes.

69. At present primary school teachers are trained in primary training institutes in East Pakistan, and normal schools in West Pakistan. Teachers of secondary schools are trained in teachers training colleges. The existing arrangements are that there are colleges of physical education for the training of physical instructors. Education Extension Centres for in-service training of teachers and educational administrators. In East Pakistan teachers of vocational subjects are also trained at the Education Extension Centre, while there is a separate Technical Teachers Training College at Lyallpur for such teachers in West Pakistan. Post-graduate programmes in Education are provided at the Institutes of Educational Research at Dacca and Lahore and also at some of the existing teachers training colleges.

70. It is estimated that at the primary level 85,000 additional teachers will be needed in East Pakistan and about 70,000 in the Provinces of West Pakistan during the Plan period. The problem of teachers' training in East Pakistan is extremely acute as only 67 per cent of the working primary school teachers are trained. In order to meet these deficiencies the existing 47 Primary Training Institutes will be expanded and 52 Teachers' Training Centres established and the two programmes together will produce about 71,000 trained teachers during the Plan period. In-service training facilities for a sizeable number of working untrained teachers will also be provided in these institutes. The position in West Pakistan is better as about 95 per cent of the working teachers in primary schools are already trained. While the requirements of the four Provinces of West Pakistan are not yet available separately, it is estimated that about 57,000 additional teachers will be trained during the Plan period.

71. By 1970 the training institutions for secondary school teachers in East Pakistan will have capacity to train 1,300 teachers at degree and post-graduate level, 250 under-graduate teachers, 160 physical instructors and 50 teachers of vocational subjects and the corresponding figures for West Pakistan will be 1,900, 930, 200 and 75 respectively. While the basic structure of training institutions for secondary school teachers appears to be sound, there seems to be urgent need for improvement of quality and standard of training programmes. Improvement of training programmes will largely depend on the success of the programmes of educational research. For this purpose special attention will be given to strengthening the research programmes at the Institutes of Education and Research. Training colleges will also be encouraged to initiate programmes of educational research. Training of teachers of science, mathematics and of diversified courses

will require special attention. New training programmes will have to be devised for these teachers who will be in great demand in future. As a matter of urgency premier degree colleges may have a special department to train science and mathematics teachers. Further, the existing training institutions will be consolidated and a few more training colleges of various types will be established.

72. The proposed programmes provide for raising the annual output of secondary teachers from 1,700 to 4,000 in East Pakistan and 3,100 to 4,500 in the provinces of West Pakistan. The existing as well as the newly established training facilities will produce about 15,000 trained teachers in East Pakistan against the the demand of 28,000 and 25,000 in West Pakistan Provinces against the demand of 30,000. These trained teachers will meet the demand to the extent of 53 per cent in East Pakistan and 83 per cent in West Pakistan. The gap between the demand and output of trained teachers in East Pakistan is undoubtedly wide yet the proposed expansion represents a definite improvement over the present position where only 20 per cent of the secondary school teachers are trained. Special measures may have to be adopted to meet the future requirement of teachers. One of the measures would be to appoint first class untrained graduates to the teaching jobs who could undergo training at some later stage.

73. Two experimental programmes to improve teaching in the primary and secondary schools will also be launched. The Government will provide a small number of mobile vans, manned by teams of exceptionally competent teachers and equipped with films demonstrating superior techniques of teaching, to tour schools in designated parts of each province. The crews of the mobile vans will seek to gain the interest of teachers in new developments in pedagogy in somewhat the same way that agricultural extension workers seek to provide the farmer with current, practical information about improved agricultural techniques. The vans will give demonstrations of the use of materials of instruction, including those types of materials that can be produced locally.

74. The Programme of in-service training of working teachers will be largely expanded. Facilities presently available at existing education extension centres and other in-service training centres specially for primary schools are extremely limited as compared to the current requirement. Available accommodation, equipment and libraries of existing training institutions, colleges of general education and if necessary of high schools will be utilised in organising intensive in-service training programmes for teachers of all categories. These programmes will be organised round the year specially by the Education Extension Centres. Teachers conducting in-service training programmes during vacations will have to be paid reasonable remuneration.

75. The present proportion of female teachers in all categories of schools is very low. This is particularly so in East Pakistan where the number of female teachers is negligible. Even some girls schools are staffed by male teachers. Under the Fourth Plan efforts will be made to bring more female teachers to the teaching profession by offering them adequate incentives. Adequate training facilities will also have to be provided for female teachers. The Plan will, therefore, earmark a very large proportion of the additional school and training facilities for education of girls and training of women teachers. Training of secondary school teachers will be continued in the mixed teacher training colleges as at present. To ensure training of a sufficient number of graduate women teachers, reservation of places in all training colleges with adequate provision of hostel facilities will be made.

Vocational and Technical Education

76. Second only to elementary education in the priorities for human resource development is the expansion and improvement of vocational and technical training.

The main focus of new efforts is to enlist the support and co-operation of employers in establishing more relevant and efficient programmes of training.

77. Vocational and technical education standardly exists at three main levels: certificate, diploma and degree. These will be discussed in order.

78. Certificate level : At this level are developed skilled operatives and craftsmen. Presently, there is no systematic pattern of training : some training is conducted in the public corporations, a bit is done in private industry through apprenticeship programmes ; vocational institutes exist here and there but generally have a small enrolment. In some cases skills are handed down from father to son. There is not even a standard classification of occupations yet established; hence, the content and depth of training for a given occupation varies from one plant to another and from one institution to another. The scattered nature of training and the indefiniteness of its content impede worker mobility, hinder recruitment of talented people to operational tasks, and, in general, reduce productivity. The small size of the devleopment of vocational and industrial training is indicated by the fact that in the public institutions enrolment was only 4,000 in East Pakistan and 5,000 in West Pakistan in 1969-70.

79. There are, indeed, three main reasons to develop a high-grade national programme of training of skilled operatives and craftsmen. First, better training is a necessary, though admittedly not a sufficient condition, to raise worker productivity. Second, a broad-based system of training for operative and craft skills will reduce pressure on the general high schools to absorb youth who are not immediately interested in literature and other verbal pursuits; it will similarly reduce pressure on the arts colleges. Third, to establish a viable alternative to general education is a humanitarian step, in that students are enabled to aviod the frustrating process of investing time and money in general education, only to end up as academic failures in the ranks of the educated unemployed.

80. By the end of the Fourth Plan, it is intended that training opportunities in the public sector will be considerably expanded to cover 85,000 of elementary school completers against 9,000 being trained in 1970. The training programme in the private sector may even cover a larger number. The intention is to share responsibility for provision of training between the private and public sectors. Among other benefits, the rationalization of the private sector contribution to training activities will allow the market better to indicate whether the diversion of such a large number of students into skills instruction is of the appropriate magnitude or not. At this time, however, it is clear that there should be a substitution of more practical training for the literary skills imparted in the standard secondary school.

81. *Privately-administered Training Programmes.*—It is proposed to establish an autonomous National Board of Training to oversee programmes of on-the-job training in private firms. The administrative activities of the Board will be decentralised to training regions in each Province. Upon approval of a given firm's Plan for training, the establishment will be reimbursed in full for the necessary costs of offering instruction in operational and craft skills, including salaries of instructors, net costs of materials used in instruction, costs of repairing machinery damaged by trainees (but not including trainees' wages). Trainees must be employees of the given firm or of a firm for which the given firm is providing training under contract.

82. On-the-job training may be financed by a suitable levy on the pay-roll of all private employers in all sectors of economy who have 50 or more permanent employees. It is estimated that a 2% levy will yield funds to cover about 50% of the cost of training. If necessary, the Government may subsidize such efforts in

the private sector. The proposed National Board of Training as an autonomous body will operate the levy system and funds so collected will be spent on training and research.

83. This sort of training levy was adopted in France in 1930, has been used extensively (and successfully) in Latin America, and was taken up in the United Kingdom as recently as 1964. It has the following advantages : the training would be relevant to the tasks that the craftsman was eventually to perform independently; the training system would be flexible, in that courses of training would be adjusted strictly to the time it takes to learn a given skill, not to an academic calendar; the training would be put immediately to use, because the persons receiving it would already be hired and on-the-job ; the flow of funds to finance the training activities would automatically adjust itself to the rate at which more sophisticated grades of labour were being substituted for less.

84. *Publicly-administered Training Programmes.*—It is not possible, however, for employers to provide the full amount of certificate level training that is needed. In some parts of the country, there simply are not enough firms of sufficient size to mount training efforts that could serve any proper proportion of youth. Yet, youngmen from these areas will continue to migrate to the cities and, without training, waste their lives in escape jobs. Moreover, employers cannot be expected to provide any substantial amount of training for females or for persons who are to enter public sector activities. Some young men may also wish to continue in formal education but need practical curricula to hold their interests. These types of persons often can be led to make outstanding contribution in engineering, research, computer science, and related fields.

85. Accordingly, it is important to continue to build strength in public vocational education for Grades IX—X. In East Pakistan, there is already underway a programme to establish a vocational high school in each thana. By the end of the Third Plan, it is expected that 35 of these schools will be admitting students. During the Fourth Plan, it is intended to open an additional 145 vocational high schools. Each school will have an enrolment of about 250 students. In the Fifth Plan, the Task of providing one vocational high school in each thana will be completed: further, where transport conditions make it a feasible scheme, the vocational high schools in selected thanas will be more extensively developed so that they may serve students from the general high schools of the thana on a part-day or part-week basis as well as continuing to enrol their full-time students.

86. In West Pakistan, private employment is more fully developed, and business firms can carry a relatively great share of training responsibilities. However, it is crucial to continue with the plans for creating thorough programmes for vocational training by establishing 60 vocational institutes to accommodate an increased annual intake of 22,000 over the existing 5,000.

87. Students attending vocational courses in Classes IX—X will study not only trades but also Urdu/Bengali, Mathematics, and Science. The academic subjects will be taught intensively but with a practical work-oriented bias. Vocational study in Classes IX—X is intended to prepare students to stand for a newly-designed examination, Matric (Tech). It is expected that this certificate will hold parity of esteem with Matric (Arts).

88. Increased emphasis on formal vocational training implies a need for additional teachers of trade and teachnical subjects. It is proposed that facilities be created to provide an annual outflow of 400 teachers from a two-year course of training.

89. In addition, five pilot technical high schools for girls will be established in each Province, specialising in social welfare. In addition to language, mathematics, and science, the following subjects will be taught: basic concepts of preventive medicine, child care, librarian-ship, teaching of verbal and numerical literacy to adults, simple book keeping, nutrition, home economics. These schools will prepare student to stand for a newly-designed Matric Examination.

90. This leaves the problem of basic instruction in agriculture. Experience in other countries indicates that an attempt to establish agricultural high schools is likely to be ineffective. As an alternative, it is intended that all students in rural areas in Classes VI—X receive two hours per week of instruction in applied agriculture. Where possible, the instruction should be conducted at the site of a demonstration farm or block station. In all cases, the instruction should be given by trained teachers of Agriculture and agricultural extension workers. Instruction would deal with soil characteristics; plant protection, multiple cropping, interdependence among seed varieties, fertilizers, pesticides, natural and irrigated waters ; marketing, storage, and crop transport; forestry; farm mechanics; farm accounts; credit.

91. From the point of view of spreading basic knowledge about modern farming, this approach will have several advantages: the persons being instructed by the agricultural extension workers and trained teachers of agriculture are young and malleable, yet they are in a good position to relay their new information to their fathers; the persons being instructed will be among the brighter and more ambitious of rural youth, or else they would not have survived primary school; instruction would occur in a group, thus increasing the leverage of the individual agriculture extension worker; the coverage of the agricultural extension worker might be somewhat broader than it commonly has been, that is, the extension officer will be talking to sons of the poorer farmers as well as the richer. Instruction in agriculture will not be wasted even on those youth who move to the cities because agricultural life and progress constitute the greatest common element of life in Pakistan.

92. One of the greatest handicaps in promoting better vocational and technical training at the certificate level, whether this is done in the private sector or the public, is the paucity of interesting, accurate and pedagogically-effective textbooks, manuals, workbooks, and exercise. There is talent available in the country to produce these materials. Teams will be drawn up consisting of craftsmen, teachnicians, teachers, and technical writers to prepare good textbooks, manuals, etc.

93. *Diploma/I.Tech. and B. Tech. Level.*—At this level the system of existing Polytechnic Education has been rather extensively developed. It is reported frequently that graduates, at least in some technologies, are finding it difficult to obtain employment. During the Fourth Plan polytechnics will be developed into technical colleges and only, a limited number of institutions will be established. At the end of the Fourth Plan there will be 25 Polytechnics/Technical Colleges in East Pakistan and 25 in West Pakistan.

94. The Fourth Plan is to be a period of consolidation and curricular reform in polytechnic and technical college education. The peresent concept is that polytechnics train people to hold positions at the foreman or overseer level. This is a misconception of the nature of technical education, though, polytechnics will be encouraged to introduce courses in foremanship and entrepreneurship deliberately and specifically. Technical education throughout most of the world implies that a person is equipped with a set of operational skills, just like a craftsman. The difference between thae two lies in the fact that the technician's skills consist in the application of the more basic aspects of modern science

to production and maintenance problems, while the craftsman's skills are more traditional, have less modern science content, and include exact manipulation of physical objects. Programmes in electoronics, hydraulics (with application, *interalia*, to refrigeration), metallurgy, chemical technology, tool design etc., belong in a polytechnic ; normally programmes in automobile mechanics, welding, and carpentry do not. Efforts will be made to increase the operational content of polytechnic and technical college education and the concentrate more exclusively on technical, as distinct from craft instruction, the latter being more effectively taught in the workplace.

95. The second major change to be introduced during the Fourth Plan is to establish sandwitch programmes. Sandwitch programmes for diploma level will consist of a three year sequence, in which the first year is spent in full-time formal study. The second and third years will be spent in alternating cycles, six months in the polytechnics, six months in industry. The diploma will be earned after a total of two years of formal insturction and a total of one year of on-the-job training. The programmes will be designed cooperatively by the institutions and the employers.

96. The programme will offer the advantage that the students undergo a year's study before starting on-the-job training, time enough to provide some analytical instruction about the skills they are to acquire, together with the advantage of making the training more relevant, effifficient, and employment producing through the addition of the on-the-job component. Students should be attracted to the programme because they earn while they learn—once the first year is completed. The employer is brought into contact with the institution and can suggest how instruction can be shaped better to suit his needs. The student is enabled to see more quickly the practical application of the theoretical aspects of the work that he is learning in the polytehcnic. From these two contacts, the instructor, in turn, is led to keep up-to-date in his technology and aware of how his teaching is being used in industry. The process of learning a technology is assisted by working with the processes and machinery that are being used now in production runs, rather than by becoming familiar only with whatever equipment happens to be in a polytechnic workshop or laboratory. Finally, the transition from study to work is eased on the part of both student and employer; frequently employers hire the sandwitch students they have had working in their plants and the problem of educated unemployed is reduced. Corporations in the public and quasi-public sectors as well as firms in the private sector will be encouraged to cooperate in the sandwitch programmes.

97. Lastly, Polytechnics/Technical Colleges will be encouraged to offer courses for part-time students in the following fields : foremanship ; training of industrial workers ; entrepreneurship (small business management) ; and problem solving in industry. Such courses have been very successful in Japan, the country that has domonstrated such remarkable economic growth in the last 20 years.

98. As a result of the programmes of consolidation and development of education at polytehchnic/technical college level their intake capacity is estimated to rise from 3,900 to 8,000 in East Pakistan and from 3,500 to 7,000 in West Pakistan. Total enrolment at the polytechnic/technical college level is estimated to increase from 9,000 to 20,000 in East Pakistan and from 9,000 to 18,000 in West Pakistan.

99. *Degree Level.*—Professional education at degree level is carried on mainly in engineering colleges and universities, in agricultural colleges and universities, and in medical colleges.

100. With respect to engineering education, the problem to be faced during the Fourth Plan is clearly one of quality, not sheer expansion. In the work-place,

one good engineer is worth five poorly trained ones. In engineering education, admission capacity will be raised from 780 to 1,500 in East Pakistan and from 1,500 to 1,800 in the Provinces of West Pakistan.

101. Post-graudate engineering programmes operating at the technical universisties at Dacca and Lahore are still not firmly established. Under the Fourth Plan major emphasis will be needed for fully developing engineering courses at M.Sc. level by providing special incentives for students to join post-graduate courses at these universities. For many reasons the technical universities have not so far been able to attract sufficient number of students for post-graduate studies.

102. Two specific programmes in agricultural education will be expanded. First, there is a need in the country for more agricultural economists. Second, the agencies concerned should intensify, their efforts with respect to in-service training of extension workers, in part because of new developments in multiple cropping and in part because of the demands now placed on agricultural extension workers and teachers to teach part-time in the middle and high schools of the rural areas.

Higher Education

103. (a) *Colleges.*—At present there are about 150 intermediate and 136 degree colleges in East Pakistan and 145 intermediate and 150 degree colleges in West Pakistan. Enrolment in East Pakistan is 2,00,000 at intermediate stage and 58,000 at degree stage. In West Pakistan the corresponding figures are 1,40,000 and 60,000. Of the total enrolment of 4,58,000 at the intermediate and degree levels only about 1,10,000 are studying science.

104. It is recognised that although enrolment at intermediate and degree levels has very largely increased during the Third Plan period, yet some parts of the country are poorly supplied with college education. Facilities for science education are extremely inadequate in a large majority of the private colleges. The need for consolidation and expansion of the existing colleges to their optimum size is essential. The private colleges will be given adequate funds to build up their science departments. Only a very limited number of intermediate and degree colleges may be opened in special areas. The Fourth Plan provides for additional 1,10,000 places (55,000 in East Pakistan and 55,000 in West Pakistan) at intermediate stage and 38,000 at degree level (20,000 in East Pakistan and 18,000 in West Pakistan). The target may be largely attained by expansion and not by multiplying the number of colleges. About 60 per cent of the additional places will be for sceince and the remaining 40 per cent for arts, commerce, etc. In view of the increasing rate of unemployment among the arts graduates limited expansion and qualitative improvement of college education during the Fourth Plan, will be strategically important.

105. Beyond this, further development of college education must be held over for the Fifth Plan, following the completion of certain structural and curricular reforms. It is necessary to design and implement grant-in-aid arrangements to ensure that public money is used to support programmes of reasonable quality. Presently, many colleges and all universities are heavily subsidised by public funds ; yet, these institutions offer direct benefits almost exclusively to middle and upper income families, that is to say, to a small section of the country's population. Ideally, all education, including higher education, should be free of fees and the problem of equity in finance should be treated through a broad-based and progressive system of taxation.

106. The curricula of the colleges should be explored to see to what extent they are making sufficiently strong demand on the intellects of the students and to see whether the nature of college curricula may be contributing to the problem of educated unemployed.

107. As noted above, it is intended that colleges assume a major share of the responsibility for in-service training of middle and high school teachers, especially in helping these teachers improve their understanding of methematical and scientific concepts. This step calls primarily for recurring, not capital expenditure.

108. (b) *Universities.*—Funds allocated in the Plan are substantially for the improvement of the scientific departments of the universities. It is noted that the number of professors and other teaching staff in scientific fileds has been rising more rapidly than the number of students studying science, resulting in overcrowding in arts departments. There could be several reasons : poor teaching in science, unattractive conditions of work for science graduates, inadequacies of instruction in mathematics and analytical modes of thought in Classes I—XII and a consequent need for remedial programmes at university level, etc. It is expected that the Central Universities will take leadership in improving science teaching throughout the country's institutions of highr education. Particular attention must be given to the design of new and imaginative models of teaching science.

109. Pressure for admission in honours and post-graduate classes particularliy in science subjects is so great that establishment of a number of provincial unverisities at suitable places will be required. However, the resources allocated in the Plan are limited and it will not be possible to allocate large funds for construction of an entirely new campus for any such university. Each new university will therefore, be developed on the site and in the physical facilities of an emerging educational centre *i.e.* a strong degree college. The new universities will not seek to offer a full range of studies. Instead each will have a limited number of specialities in which honours and post-graduate students will be enrolled.

110. Need for establishment of a new university in the newly created province of Baluchistan is pressing and it may be possible to start a new university either by utilising some of the existing physical facilities available at the Government Degree College, Quetta, or by taking over the buildings constructed for the Institute of Mineral Technology at Quetta, lying un-utilised. Similarly the present overcrowding in the University of Punjab can be minimised by developing a smaller university in one of the Government colleges at Multan or Sargodha. In East Pakistan a new university is proposed to be established at Khulna Division where none exists at present. It may be economical to consider the possibility of establishing the new university around B. M. College, Barisal or B. L. College, Doulatpur which are the two important degree colleges in that division with certain physical facilities already available for expansion. Establishment of a university at Sylhet with the Government Degree College as its nucleus was approved in principle before independence and necessary land was acquired. Subsequently a large number of buildings, both residential and academic, were constructed for Village-Aid Academy (now defunct) and are not being properly utilised. A new university can be immediately started at Sylhet without incurring much expenditure if these available physical facilities are fully utilised. It is proposed that the above universities be established at a minimum cost out of the funds allocated for this purpose during the Plan period.

111. The Education Policy provides for establishment of a Central University in East Pakistan like the Islamabad University. The taking over of the Jahangirnagar University in East Pakistan by the Centre is being planned by the Ministry of Education.

112. The existing Universities will continue to affiliate the colleges but the pressure of affiliation may be reduced partly be establishing new universities as proposed and partly by allowing outstanding degree colleges to attain an increasing measure of self-government as potential university centres.

113. The Provincial Governments should consider the establishing of University Grants Commissions to make distributions of funds for University support. The Commissions are intended to serve in such a fashion that the autonomy of the universities is strengthened, while at the same time allocations of economic resources to universities are made more objective and rational. Necessary legislation for establishment of University Grants Commissions may take some time. Meanwhile the constitution of Evaluation Committees at the provincial level for the assessment of needs and requirements is essential. An Evaluation Committee for the Universities of East Pakistan is already functioning and constitution of similar committees for the newly emerging Provinces of West Pakistan may be considered.

Religious Education

114. Educational institutions in Pakistan will continue to play an important role in the preservation and inculcation of Islamic values as an instrument of national unity and progress. Religious instruction will be accorded an important place in the general system of education. While religious education will continue to be a compulsory subject at the secondary stage, it should be possible to reflect the basic principles of Islam in the general courses of study at the college and university level through suitably reformed curricula. A properly representative committee will be set up to re-design the curricula and to advise on the preparation of suitable syllabi. Arrangements will be made for the children of various Non-Muslim Communities to receive necessary instruction in their respective religion provided the number of such students justifies appointment of a separate teacher in a school. Students of minority community may also be permitted to offer Pakistani Culture as an alternate paper in the examination if they so desire. The courses of studies of the Madrashahs will also be reorganised and standardized without, however, impairing their distinctive character as institutions of Islamic Learning. At the higher level, the Islamic Studies Departments of the Universities will be strengthened in order to produce the right type of leadership for national unity and progress.

Educational Research

115. Planning of education and training programmes generally suffers from inadequacy of data and analysis. Although Education is a separate discipline, only very limited research work has been carried out in this field during the past years. Dessertations and papers prepared by students as a part of M.A/M.Ed. degrees are, no doubt, good exercises but they can hardly be called good research work on educational problems. Moreover, educational research at the national level, from the point of view of the educational planner, is different from that conducted at the Training Colleges, Institutes of Education and Research or University Departments.

116. The National Commission on Manpower and Education initiated a number of research works in the field of Education and Manpower and provided the country with a series of important reports. A base has been built and it should now be possible to obtain a more adequate flow of educational research from the Central and Provincial Bureaus of Education, the two Institutes of Education and Research at Dacca and Lahore, Education Departments in the Universities and from the Training Colleges. Computor facilities are now readily available in the country and, officers trained in basic analysis are becoming available in the Education Sector. About 2 per cent of the total resources allocated to the Education Sector have been earmarked for educational research, ground surveys, curriculum development, and textbooks. Urgent steps will be taken by the Ministry of Education and Provincial Departments of Education to encourage and promote educational research and offer the required leadership. Research should also be encouraged in the private sector by offering financial assistance.

Scholarships

117. There are at present wide differences and imbalances in the provision of education services in different parts of the country. Deliberate and specific moves towards equalising educational opportunities are extremely important for national integrity and social justice. A properly organised system of scholarships constitutes an important means of equalising opportunities and encouraging talent. Expenditure on scholarships and other concessions to students has been increasing steadily from year to year. It rose from Rs. 6.80 million in 1960-61 to Rs. 21.00 million in 1964-65 and to Rs. 37.90 million in 1969-70. Presently, 64,000 students are benefited under the scholarship programme which however, represents only about 2 per cent of the total enrolment above primary level.

118. Out of the total expenditure of Rs. 152.29 million incurred on scholarships under the Third Plan, less than 25 per cent went to general education and the balance to science, engineering, medicine, agriculture and technical and vocational education. The existing programme of scholarships will be considerably expanded to meet the increasing demand of science and technology. During the Fourth Plan still higher proportion of scholarships will be awarded in these fields. In awarding scholarships preference will be given to those undertaking research at post-graduate level. Efforts will be made to develop a more reliable technique for identifying talents.

119. In a developing economy the ability to utilise talent is greatly limited. Large sums of money are required to support the limited talent which is being identified at different levels. It seems necessary to supplement the scholarships programme by a student-loan system through which talented students of limited financial means may be extended monetary support for pursuing further education. The loan system will work well particularly in specialised fields where monetary gain from education is very high. The repayment of the loan should start after the student concerned starts earning. Details of the proposal are still being examined and will be finalised in consultation with the Central and Provincial agencies concerned.

Physical Education

120. Apart from physical fitness certain essential qualities such as perseverance, mental alertness, team spirit, leadership are developed through a well-organised system of physical education. In view of the importance of systematic physical education, it is included in the list of compulsory subjects at middle and high stages. Schools, however, suffer largely from lack of adequate facilities for organising programmes of physical education. At the college level introduction of the programme is considered extremely desirable. At present facilities of physical education are mostly confined to a limited number of schools and colleges. Facilities for the training of physical instructors are extremely inadequate. There is only one college of physical education in East Pakistan and two in West Pakistan with an annual out put of 160 and 200 respectively.

121. The Fourth Plan Programmes lay special stress on providing appropriate facilities of physical education in schools and colleges. Emphasis will be on developing programmes of traditional forms of play and physical activities which are within the financial means of each institution. Such programmes should be developed to offer opportunities to all students rather than a selected few. Financial assistance to schools and colleges will also cover programmes of physical education, sports etc. Provisions of facilities for physical education should be a pre-condition for grant of recognition and affiliation to private institutions. Training facilities for physical instructors both for schools and colleges will be substantially increased by expanding the existing colleges and by establishing a number of new colleges of physical education. Necessary provision of funds for these training programmes has been made under the sub sector of Teacher Education.

Library Services

122. Library is an integral part of education at all levels. Education imparted in formal institutions and outside should necessarily be supplemented and augmented by reading habits. While library services in the country are extremely inadequate, many of the existing libraries remain unutilised due to non-availability of graded books, especially in national languages, absence of trained librarians and paucity of sufficient funds. Necessary measures need to be adopted for organising proper library services in the country. Besides, completion of important on-going projects such as public libraries at Chittagong, Dacca, Rajshahi, National Libraries at Islamabad and Dacca, development of Liaquat Memorial Library Karachi, it is intended to establish during the Fourth and subsequent Plans a net work of rural libraries throughout the country to provide reading facilities to the public in general. Provision of adequate reading materials for the rural libraries will also be profitably utilised by adult education centres.

123. The Provincial Governments normally provide funds as library grants to educational institutions. To promote the cause of library service a Directorate of Archives and Libraries has been functioning under the Ministry of Education and Scientific Research. The Directorate needs to be reorganised and suitably strenghtened to offer necessary guidance to the Provinces for better organisation of library serivces.

124. In the Provinces some efforts have been made to establish public libraries in districts, sub-divisions and thana headquarters. Diploma, degree and certificate courses in Library Science have been introduced in some universities of Pakistan. It is expected that a number of professional librarians will be available by the end of the Fourth Plan period for employment in the rural and urban libraries. Training facilities for librarians need to be expanded.

125. It may be possible for every District School Authority/Local Body to have a well-stocked library with an attached reading room. It is equally important that facilities be provided at thana/tehsil level for establishing similar libraries. Arrangements can be made for mutual borrowing of books among the libraries for a definite period. A team of roving trained librarians may be charged with organisation of library services in the country.

126. Juvenile literature such as, fiction, adventure, folk-literature, periodicals and journals must be made available to our young readers. Their attraction for cheap foreign books, comics and sex magazines must be replaced by healthy and graded juvenile literature. Moreover, if the country's millions are to be given lasting literacy, useful and interesting reading materials should be made available to them through establishment of a chain of libraries in small towns and villages. Where possible, mobile libraries should be established in the rural areas to create reading habits among the masses. Funds have been provided in the Plan for development of extensive library services in the country.

Text Book and Curriculum Development

127. Investment in education is becoming larger and larger. The Plan allocation has increased from Rs. 380 million in the First Plan to Rs. 3665 millions in the Fourth Plan. Recurring expenditure is also increasing manifolds. Investment in a larger proportion has been aimed at producing a system of education which will help the country to come at par with advanced nations of the world. However, increased expenditure alone will not be enough. The ultimate success will depend on the seriousness of students willing to learn, an efficient teaching staff and a workable and comprehensive curriculum. While the importance of these have been discussed earlier in the relevant sections, certain aspects of the curriculum are re-emphasized to establish the urgent need for research and

continuous revision of curriculum content of studies at every level of education. Adequacy in the development of curriculum rests in its comprehensiveness, articulation and continuity. The changes in curriculum should necessarily be accompanied by reforms in the examination system.

128. Curriculum revision in the past was mostly attempted on *ad hoc* basis and was never based on adequate reserach, experimentation and evaluation. During the Fourth Plan it is intended to build up necessary research facilities in the Institutes of Education and Research at Lahore and Dacca., in the Training Colleges and University Departments and within the Intermediate and Secondary Boards of Education. These measures will be furhter strengthened and supported by necessary preparation of suitable textbooks and provision of adequate physical facilities for in-service training of teachers to make use of a progressive curricula and syllabi and new set of textbooks on different subjects. Provincial Bureaus of Curricula and Syllabi and Text-book Boards will be charged with the responsibility of organising the development of curricula and syllabi and preparation of textbooks through the various agencies concerned. Funds have been provided in the the Plan for these important items of expenditure.

New Media for Teacing

129. To overcome the persistent and formidable obstacles of the educational system, *i.e.*, shortage of teachers, outmoded curricula and instructional materrals, the educational media such as films, filmscripts, radio, television, etc. have proved very effective. Some of them are in use in a limited number of schools and coileges but only a small percentage of school population is really benefited. Rural schools have rarely such facilites. Massive efforts are, therefore, necessary to provide as many schools as possible with radio sets, film projectors, etc.

130. In many countries, television has been used as an important means of education and mass communication. It has a tremendous power to awaken the people, to educate them and also to provide them entertainment. It can be converted into a vital instrument both for general education and education of the masses in agriculture, science, technology, health, sanitation, nutrition, family planning and social welfare. Educational T.V. in Pakistan may certainly supplement the teaching programmes at the secondary and higher level. The resources of the country are however limited with so many other competitive social needs. Further, substantial coverage through television may not be possible until a large number of schools and colleges located mostly in the rural areas are provided with electricity and other amenities. While any large scale use of television in educational institutions may not be feasible during the Fourth Five Year Plan, a good beginning should be made as a part of the overall programme for adaption of television to the needs of education in Pakistan. A lump sum provision of Rs. 15.00 million has been made in the Plan for this purpose.

Arts, Culture and Sports

131. Arts and cultural centres such as museums, art galleries national monuments, fine arts academies etc., are the recongnised media through which cultural heritage of the nation is preserved. The importance of these institutions in the field of science and general education has been widely accepted. In view of the impotance of social and cultural activities in national life, sports, games and other social and cultural activities are regarded not as extra-curricular but co-curricular programme of the educational system. Considerable attention was given in the past for the development of sports and cultural centres at Regional, Provincial and National levels. However, most of the existing institutions and organizations concerned with the development of sports, arts and culture have not yet developed as progressive living institutions.

132. The need for systematic development of centres for sports and cultural activities was fully recognised during the Third Plan period. Programmes such as development of Arts Councils and National Museum at Islamabad, Central Museum at Dacca, Archaeology and Archives etc., were covered under the Central Programme. In addition training and coaching centres were established and developed at Lahore, Karachi and Dacca. The Provincial Governments invested considerable funds on establishment and development of academies for national languages, centres for sports and games and also for the development of Boys Scout and Girls Guide Movement. While most of the projects, now under implementation, will be completed during the Fourth Plan, new programmes will also be undertaken to provide better and adequate facilities for social and cultural life of the people. Autonomous and private organizations will be mobilised to supplement Government activities in these spheres and such organizations will be given grants to augment their resources.

Development of Languages

133. In the recent past English as a medium of instruction has been replaced almost enitrely in all institutions, up to the secondary level. Even at the higher stages students are allowed to write their answer-scripts in national languages. It may, however, be difficult to entirely change the medium of instruction at the higher stage of education particularly at the university level unless English languages is replaced for official purposes. The New Education Policy recommended that, as envisaged in the Pakistan Provisional Constitution Order, a Commission should be set up forthwith to examine the question of change-over from English to the National Langauges for official purposes and also that of complete switchover to the national languages as media of instruction. In the meantime, preparatory measures including production of literature and textbooks will be adopted for smooth and gradual switchover to the national languages. In view of the importance of English as a means of international communication, steps will also taken to arrest the continued deterioration of teaching of English in educational institutions. Provision will, therefore, be made to conduct special courses in the Teachers' Training Institutions to train the teachers of English at all levels. It is proposed to establish two National Institutes of Modern Languages under the aegis of Islamabad and Dacca Universities. Apart from ensuring a supply of highly trained scholars in modern languages it may be possible for these institutes to conduct training courses for the teachers of English.

Students' Amenities

134. The welfare of student community will figure prominently in the detailed programmes to be prepared by the Provinces. Provision has been made for substantial increase in the number of scholarships during the Plan period. It is also proposed that a system for advancing loans to deserving students may be developed under the auspices of Pakistani banks. Steps will be taken to ensure that adequate residential facilities are provided under the development programmes. Efforts will be made to provide wholesome food in the cafetarias attached to the educational institutions at reasonable prices. School Lunch Programme should be expanded to cover as many schools as possible in rural and urban areas and food should be supplied to the students on no-profit basis. The problem of conveyance for students in big towns and cities will be examined and suitable measures adopted to provide relief. Adequate facilities for sports, games and other co-curriucular activities will be provided in all government institutions and special grants will be given to ensure similar facilities in institutions under private management. Provision of facilities for free medical check-up will be arranged under a phased programme. Provision has also been made in the Plan for taking appropriate measures to establish an effective Counselling and Guidance Service.

National Council of Education

135. Continuous apparisal and evaluation of educational programmes is essential for preparation of Annual and Five Year Plans. The Ministry of Education has constituted a National Council of Education to advise the Government on the various measures necessary for implementation of the Plan and to assist in evaluating educational progress, intitiating and supporting research in education and other related problems.

Development of Education in Backward and Special Areas

136. As already indicated in one of the earlier sections of the Chapter, removal of disparities in educational facilities in different parts of the country, particularly rural areas, will be one of the main concerns of the Fourth Plan. Special attention will be given to providing educational facilities in areas which are comparatively less developed including those which are officially defined as 'Backward Areas' such as the Frontier Regions in West Pakistan. There are other special areas such as Chittagong Hill Tracts in East Pakistan and Azad Kashmir, Gilgit and Baltistan Agencies which also need special treatment. The Plan provides a sum of Rs. 25.00 million for the development of educational facilities in the Frontier Regions against Rs. 13.25 million spent under the Third Plan. Provision for expanding facilities of education in Chittagong Hill Tracts is included under the East Pakistan Programme, and a sum of Rs. 25.00 million is provided for developing educational facilities in Azad Kashmir Gilgit, and Baltistan Agencies. The proposed programmes will mainly include educational facilities at primary and secondary levels and for vocational education at matric certificate level. Provision of facilities for college, higher, technical and professional education for students from these regions will be made through award of scholarships and reservation of seats in colleges of general education, teacher training institutions, polytechnics and engineering colleges.

Public Relations and Plan Projection

137. "We must prepare a plan which ensures sustained economic growth, greater social justice and increasing self-reliance. This is not an easy task. It will present difficult alternatives. It will pose compiex choices".*

The necessity to make the choice and the reasons for the choices made will have to be explained convincingly if the energies of the people are to be effectively harnessed to the national effort required for a successful implementation of the Plan. A continuous flow of information through all available media of publicity will be needed to create a public opinion which can balance the demands for greater social justice and the expectations of better performance in the productive sectors of the economy. Nothing short of an elaborate process of education will enable the people to eliminate wastages that result from low *per capita* output and under-utilised capacities.

138. Despite mobilization of greater resources inside the country, we shall need foreign assistance on favourable terms. The overall contraction in the size of the aid and the general deterioration of the terms of foreign assistance call for an urgent effort to build a favourable climate of public opinion abroad and to project Pakistan's image not only as an economically viable but a dynamic and progressive nation. The publicity and Plan projection effort should, therefore, be external as well as internal.

139. A total of Rs. 10.00 million will be required for Public Relations under the Fourth Plan of which Rs. 8.50 million will be spent on home publicity and Rs. 1.50 million on foreign publicity. The physical targets of the programme will include production of publications, film documentaries, newspaper supplements, T.V. and Radio programmes, etc., at home and abroad.

*Socio Economic Objective of the Fourth Plan.

TABLE I

PERCENTAGE ALLOCATION TO DIFFERENT SUB-SECTORS OF EDUCATION

Sub-Sectors	First Plan (including recurring expenditure)	Second Plan	Third Plan	Proposed for Fourth Plan
1. Primary Education	18.0	14.7	13.6	14.6
2. Secondary Education	26.7	16.9	20.8	18.4
3. Teacher Education	6.6	4.7	3.5	4.0
4. Technical Education	8.8	15.6	26.0	25.2
5. College Education	13.1	10.4	8.2	9.9
6. Universities	15.0	12.6	11.7	9.4
7. Scholarships	0.9	10.8	7.1	7.3
8. Madrassah Education	—	—	0.6	0.7
9. Social and Cultural Activities	1.8	3.6	2.3	3.5
10. Adult Education	—	—	—	2.3
11. Special Areas	—	0.5	1.3	1.1
12. Tribal Areas	—	—	—	0.3
13. Preparation of projects, Implementation, Administration and Supervision	—	1.9	1.5	0.3
14. Curriculum development, Research, Production of text books	—	—	2.1	1.5
15. Training in Public Administration	—	—	0.8	—
16. Publicity Schemes	—	1.6	0.4	0.3
17. Establishment Division Scholarships	—	—	0.1	Shown under Scholarships
18. Scientific and Industrial Research	9.1	6.8	—	—
19. Educational Television	—	—	—	0.4
20. Survey, statistics and Planning	—	—	—	0.8
Total	100	100	100	100

TABLE II

EXPENDITURE PROPOSED UNDER THE FOURTH FIVE YEAR PLAN (1970—75)

(Rupees in Million)

Sector	E. Pak.	W. Pak.	Centre	Total	Percentage allocation to sub-sectors
1. Primary Education	405.00	115.00	27.00	547.00	14.6
2. Secondary Education	400.00	253.00	22.00	675.00	18.4
(a) Middle Stage	200.00	75.00	12.00	287.00	7.8
(b) High Stage	200.00	178.00	10.00	388.00	10.6
3. Technical Education	100.00	45.00	—	145.00	3.9
4. Technical Education including Engineering Colleges and Universities	630.00	290.00	—	920.00	25.2
5. Colleges (General)	220.00	135.00	10.00	365.00	9.9
6. Universities (General)	170.00	90.00	80.00	340.00	9.4
7. Scholarships	125.00	120.00	(a)16.00 (b)5.00	266.00	7.3
8. Madrassahs	25.00	—	—	25.00	0.7
9. Social and Cultural Activities including Library Services	50.00	22.00	55.00	127.00	3.5
10. Special Areas	—	25.00 (F.R.)	15.00 (K.A.)	40.00	1.1
11. Tribal Areas	—	—	10.00	10.00	0.3
12. Adult Education	50.00	35.00	—	85.00	2.3
13. Preparation of projects, Implementation, Administration and Supervision	5.00	5.00	—	10.00	0.3
14. Research, Curriculum Dev., production of text books	20.00	15.00	20.00	55.00	1.5
15. Educational Television	—	—	15.00	15.00	0.4
16. Surveys, Statistics and Planning	30.00	—	—	30.00	0.8
17. Publicity Schemes	—	—	10.00	10.00	0.3
TOTAL	2230.00	1150.00	285.00	3665.00	100.00

(a) Education Division.
(b) Establishment Division.

TABLE III

REQUIREMENTS OF RECURRING EXPENDITURE DURING FOURTH FIVE YEAR PLAN (1970—75)

(Rupees in Million)

Sl. No.	Items	E. Pakistan	W. Pakistan	Central	Total
1	1969-70 Expenditure extended over the 5 years of the Fourth Plan	1,060.00	1,850.00	110.00	3,020.00
2	Amount required for the Annual increments of the existing staff of educational Institutions	90.00	350.00	5.00	445.00
3	Amount required for additional staff for the New Programmes and introduction of New Pay Scales	1,170.00	850.00	35.00	2,055.00
	Grand Total	2,320.00	3,050.00	150.00	5,520.00

TABLE IV

TOTAL EXPENDITURE PROPOSED UNDER THE FOURTH FIVE YEAR PLAN (1970—75)

(Rupees in Million)

	Development Expenditure	Recurring Expenditure	Total
1. East Pakistan	2,230.00	2,320.00	4,550.00
2. West Pakistan	1,150.00	3,050.00	4,200.00
3. Centre	285.00	150.00	435.00
Total	3,665.00	5,520.00	9,185.00

TABLE V

RATE OF GROWTH IN ENROLMENT IN MAJOR SUB-SECTORS OF EDUCATION

Sub-sectors	1954-55			1959-60			1964-65			1969-70			1974-75		
	East Pak.	West Pak.	Total	East Pak.	West Pak.	Total	East Pak.	West Pak.	Total	East Pak.	West Pak.	Total	East Pak.	West Pak.	Total
Primary Stage I-V (in millions) ..	2.729	1.530	4.259	3.277	1.912	5.189	4.159	3.150	7.309	6.300	4.200	10.500	9.100	6.500	15.600
Middle stage VI—VIII, (millions)	0.333	0.496	0.829	0.276	0.427	0.703	0.514	0.646	1.160	1.040	0.900	1.904	1.540	1.400	2.940
High stage IX-X (millions)				0.123	0.157	0.280	0.217	0.273	0.490	0.395	0.375	0.770	0.615	0.590	1.205
Intermediate stage	0.022	0.036	0.058	0.035	0.044	0.079	0.085	0.091	0.176	0.200	0.140	0.340	0.255	0.195	0.450
Degree stage .. (millions)				0.013	0.016	0.029	0.030	0.035	0.065	0.058	0.060	0.110	0.078	0.078	0.156
Universities (units)	2,697	2,605	5,302	3,688	5,180	8,868	5,500	8,000	13,500	13,000	17,000	30,000	17,000	21,000	38,000
Degree Engineering courses (units) ..	184	1,348	1,832	960	1,408	2,368	1,020	2,807	3,827	2,500	5,800	8,300	4,500	7,800	12,300
Technical Training courses (Diploma level) (units) ..	483	1,371	1,854	1,001	2,736	3,737	3,470	3,768	7,238	9,000	9,000	18,000	20,000	18,000	38,000

TABLE VI

STATEMENT SHOWING GROWTH OF POPULATION OF VARIOUS SCHOOL AGE GROUPS IN PAKISTAN AND PROVINCES (1970—75)

(Figures in millions)

Age Group	1970			1975			1980			1985		
	E	W.	P	E	W.	P	E	W	P	E	W	P
5—9 Years:												
Boys	5.834	4.733	10.567	6.864	5.280	12.144	7.916	5.953	13.869	9.010	6.667	15.677
Girls	5.712	4.280	9.992	6.704	4.788	11.492	7.710	5.412	13.122	8.753	6.078	14.831
Both Sexes ..	11.546	9.013	20.559	13.568	10.068	23.636	15.626	11.365	26.991	17.763	12.745	30.508
10—12 Years :												
Boys	2.950	2.429	5.379	3.577	2.039	6.466	4.195	3.204	7.399	4.831	3.624	8.455
Girls	2.905	2.207	5.112	3.495	2.605	6.100	4.087	2.901	6.988	4.690	3.286	7.976
Both Sexes ..	5.855	4.636	10.491	7.072	5.494	12.566	8.282	6.105	14.387	9.521	6.910	16.431
13—14-Years:												
Boys ..	1.862	1.503	3.364	2.170	1.703	3.953	2.579	2.025	4.594	2.996	2.267	5.263
Girls	1.839	1.412	3.251	2.121	1.610	3.731	2.510	1.818	4.328	2.905	2.052	4.957
Both Sexes ..	3.700	2.915	6.615	4.291	3.393	7.684	5.089	3.833	8.922	5.901	4.319	10.220

TABLE VII

BENCHMARK AND PHYSICAL TARGETS FOR THE FOURTH FIVE YEAR PLAN (1970—75)

	EAST PAKISTAN		WEST PAKISTAN		PAKISTAN	
	Bench-mark for the 4th Plan (1970)	Targets for the 4th Plan (1975)	Bench mark for the 4th Plan (1970)	Targets for the 4th Plan (1975)	Bench-mark for the 4th Plan (1970)	Targets for the 4th Plan (1975)
1	2	3	4	5	6	7
School Education						
(*a*) *Primary Stage.*						
(*i*) No. of Primary Schools.	29,440	34,440	40,600	63,000	70,040	97,440
(*ii*) Improvement of Primary School.	11,421	21,821	9,350	24,300	20,771	46,121
(*iii*) Enrolment at Primary Stage (Classes I—V).	6.300 millions	9.100 millions	4.200 millions	6.500 millions	10.500 millions	15,600 millions
(*iv*) Enrolment as percentage of age group.	55	67	46	65	50.5	66
(*v*) No. of Primary Teachers Training Institutes.	48	100	53	70	101	170
(*vi*) Annual output of Primary School Teachers.	7,000	20,000	10,000	15,000	14,000	35,000
(*b*) *Middle/Junior Stage (Classes VI-VIII).*						
(*i*) No. of Middle/Junior High Schools.	1,780	2,000	3,300	5,300	5,080	7,300
(*ii*) Enrolment at Middle/Junior Stage.	1.040 millions	1.540 millions	0.900 millions	1.400 millions	1.940 millions	2.940 million
(*c*) *High Stage.*						
(*i*) No. of High Schools (Classes IX and X).	3,420	3,970	1,900	2,400	5,320	6,370
(*ii*) Enrolment at High Stage.	0.395 millions	0.570 millions	0.375 millions	0.550 millions	0.770 millions	1.120 millions
(*iii*) No. of Training Institutions for Secondary School Teachers.	13	19	14	18	27	37
(*iv*) No. of Education Extension Centres.	1	3	4	5	5	8
(*v*) Annual output of Secondary School Teachers.	1,700	4,000	3,100	4,500	4,800	8,500

1	2	3	4	5	6	7
(d) Technical Education.						
(*i*) No. of Vocational Institutes/Technical High Schools.	35	180	40	100	75	280
(*ii*) Enrolment of Matric Tech.	4,000	45,000	5,000	40,000	9,000	85,000
(*iii*) Annual Admission capacity at Matric Tech. level.	2,680	25,000	5,000	22,000	7,680	47,000
(*iv*) Annual output of Matric Tech.	400	15,000	4,750	15,000	5,150	30,000
(*v*) No. of Polytechnics/ Technical Colleges (including Pak Swedish Institute and 3 Mono-Technics.)	22	25	19	25	41	50
(*vi*) Addmission capacity to Technician courses/Intermediate Tech in Polytechnics/ Technical Colleges.	3,900	8,000	3,500	7,000	7,400	15,000
(*vii*) Enrolment in Polytechnics/Technical Colleges.	9,000	20,000	9,000	18,000	18 000	38,000
(*viii*- Annual output of Diploma level technicians/Inter Tech.	1,300	4,000	2,500	4,000	3,800	8,000
(e) Engineering Education;						
(*i*) No. of Engineering Institutions (including University of Engineering and Technology).	4	5	5	6	9	11
(*ii*) Admission capacity of Graduate Engineers.	780	1,500	1,500	1,800	2,280	3,300
(*iii*) Annual output of Graduate Engineers.	480	650	873	1,100	1,353	1,650
(f) College Education (General):						
(*i*) No. of Intermediate Colleges.	150	175	145	175	295	350
(*ii*) Enrolment at Intermediate Stage.	.200 millions	.255 millions	.140 millions	.195 millions	.340 millions	.450 millions
(*iii*) No. of Degree Colleges.	136	152	135	150	271	302
(*iv*) Enrolment at Degree Stage.	0.058 millions	0.078 millions	0.060 millions	0.078 millions	0.118 millions	0.156 millions
(g) Universities (General):						
(*i*) No. of Universities.	3	6*	5*	7	8*	13*
(*ii*) Enrolment at University level.	0.013 millions	0.017 millions	0.017 millions	0.021 millions	0.030 millions	0.038 millions

*Including Central Universities.

TABLE VIII

BENCHMARK PHYSICAL TARGETS IN EDUCATION AND TRAINING SECTOR, PAKISTAN

	Bench-mark for the 3rd Plan 1964-65	Targets for the 3rd Plan 1969-70	Bench-mark for the 4th Plan 1969-70	Targets for the 4th Plan 1974-75	Percen-tage in-crease over 1969-70
1	2	3	4	5	6
(*a*) *Primary Stage*:					
(*i*) Number of Primary Schools:	60,774	91,000	70,040	97,440	39
(*ii*) Improvement of Primary Schools	9,100	39,600	20,771	46,121	122
(*iii*) Enrolment at Primary stage ..	7.309 millions	13.100 millions	10.500 millions	15.600 millions	49
(*iv*) Enrolment as percentage of age group	45	70	50.5	66	31
(*v*) Number of Primary Teachers, Training Institutions.. ..	95	102	101	170	68
(*vi*) Annual output of primary school teachers	14,600	20,000	14,000	35,000	140
(*b*) *Middle/Junior Stage Classes VI—VIII*:					
(*i*) Number of Middle/Junior high schools	4,428	—	5,080	7,300	44
(*ii*) Enrolment at Middle/Junior stage	1.16 millions	2.00 millions	1.94 millions	2.94 millions	52
(*c*) *High stage*:					
(*i*) Number of high schools (classes IX & X.)	3,930	4,189	5,320	6,370	20
(*ii*) Enrolment at high stage ..	0.49 millions	0.74 millions	0.77 millions	1.12 millions	45
(*iii*) Number of training institutions for secondary school teachers ..	25	32	27	37	37
(*iv*) Number of Education Extension Centres	2	6	5	8	60
(*v*) Annual output of secondary school teachers	4,800	5,200	4,800	8,500	77

1	2	3	4	5	6
(d) Technical Education:					
(i) Number of Vocational Institutions/ Technical High Schools ..	52	159	75	280	273
(ii) Enrolment of Matric Tech./ Vocational Institutions	—	—	9,000	85,000	744
(iii) Admission capacity at Matric Technical level	3,700	50,000	7,680	47,000	512
(iv) Annual output of Matric Tech...	3,050	—	5,150	30,000	463
(v) Number of Polytechnics /Technical Colleges (including Pak-Swedish Institutions and 3 Monotechinics in East Pakistan):	25	54	41	50	22
(vi) Admission capacity to Technician courses/I Tech. in Polytechnics/Technical Colleges ..	3,704	1,400	7,400	15,000	103
(vii) Enrolment in Polytechnics/ Technical Colleges	—	—	18,000	38,000	111
(viii) Annual output of Deploma level technicians/I. Tech. ..	1,644	4,500	3,800	8,000	110
(e) Engineering Education:					
(i) Number of Engineering Instututions (including Universities of Engineering & Technology) ..	6	8	9	11	22
(ii) Admission capacity of graduate engineers	1,603	3,300	2,280	3,300	44
(iii) Annual output of graduate engineers	614	1,375	1,353	1,650	21
(f) College Education:					
(i) Number of Intermediate Colleges	166	—	295	350	19
(ii) Enrolment at Intermediate stage.	0.175 millions	—	0.340 millions	0.450 millions	32
(iii) Number of Degree Colleges ..	200	—	271	302	11
(iv) Enrolment at Degree Stage ..	0.074 millions	—	0.118 millions	0.156 millions	32
(g) Universities (General):					
(i) Number of Universities (including Central Universities) ..	6	9	8	13	63
(ii) Enrolment at University level ..	21,239	—	0.030 millions	0.038 millions	27

TABLE IX

BENCHMARK AND PHYSICAL TARGETS IN EDUCATION AND TRAINING SECTOR

East Pakistan

	Bench-mark for the Third Plan (1964-65)	Targets for the Third Plan (1969-70)	Bench-mark for the Fourth Plan (1969-70)	Targets for the Fourth Plan (1974-75)	Percentage increase over (1969-70)
1	2	3	4	5	6
School Education :					
(*a*) *Primary stage*:					
(*i*) No. of Primary School ..	27,649	31,000	29,440	34,440	17
(*ii*) Improvement of Primary School.	7,500	26,000	11,421	21,821	91
(*iii*) Enrolment at Prmiary stage (Classes I—V)	4 159 millions	7 200 msllions	6 300 millions	9 100 millions	44
(*iv*) Enrolment as Percentage of age	47	70	55	67	22
(*v*) No. of Primary teachers training institutes	42	49	48	100	108
(*vi*) Annual output of Primary School teachers	4,200	9,600	7,000	20,000	186
(*b*) *Middle/Junior stage*					
(*i*) No. of Middle/Junior High Schools	1,583	—	1,780	2,000	12
(*ii*) Enrolment at Middle/Junior High stages (Class VI—VIII)	0,514 millions	0,800 millions	1,040 millions	1,540 millions	48
(*c*) *High Stage*:					
(*i*) No. of High Schools ..	2,248	2,267	3,420	3,970	16
(*ii*) Enrolment at High stage (Classes IX & X)	0.217 millions	0.342 millions	0 395 millions	0 570 millions	44
(*iii*) No. of training institutions for Secondary School teachers ..	10	11	13	19	46
(*iv*) No. of Education Extension Centres	1	1	1	3	200
(*v*) Annual output of Secondary School teachers	1,600	1,700	1,700	4,000	135

1	2	3	4	5	6
(d) Technical Education;					
(i) No. of vocational Institutes Technical High Schools	17	89	35*	180	414
(ii) Annual Admissions at Matric Tech.	—	—	4,000	45,000	1,100
(iii) Enrolment Matric Tech	200	25,000	2,680	25,000	836
(iv) Annual output of Matric Tech.	50	—	400	15,000	3,650
(v) No. of Polytechnics/Technical Colleges**	15	30	22	25	14
(vi) Admission capacity to Technician Courses Inter. Tech. in Polytechnics/Technical	1,820	7,000	3,900	8,000	105
(vii) Colleges Enrolment in Polytechnics Technical Colleges	—	—	9,000	20,000	122
(viii) Annual output of Diploma level technicians Inter Tech.	375	1,700	1,300	4,000	208
(e) Engineering Education;					
(i) No. of Engineering institutions (including EPUET)	1	3	4	5	25
(ii) Admission capacity of graduate engineers	480	1,500	780	1,500	92
(iii) Annual output of graduate engineers	201	500	480	650	35
(f) College Education (General) :					
(i) No. of Inter Colleges	57	—	150	175	20
(ii) Enrolment at Inter stage	0.085 millions	—	0.200 millions	0.255 millions	28
(iii) No. of Degree Colleges	84	—	136	152	12
(iv) Enrolment at Degree stage	0.030 millions	—	0.058 millions	0.078 millions	32
(g) Universities (General)					
(i) No. of Universities	2	4	3	6***	100*
(ii) Enrolment at University level.	8,739	—	13,00	17,000	31

*includes trade programmes in 13 Polytechnics.

**Including Pak Swedish & 3 Monotechnics.

***Including Central University

TABLE X

BENCHMARK AND PHYSICAL TARGETS IN EDUCATION AND TRAINING SECTOR (1969-70 TO 1974-75)

West Pakistan

	Bench-mark for the Third Plan (1964-65)	Targets for the Third Plan (1969-70)	Bench-mark for the Fourth Plan (1969-70)	Targets for the Fourth Plan (1974-75)	Percentage increase over 1969-70
1	2	3	4	5	6
School Education					
(*a*) *Primary stage* :					
(*i*) No. of Primary Schools ..	33,125	60,000	40,600	63,000	55
(*ii*) Improvement of Primary Schools	1,600	13,600	9,350	24,300	160
(*iii*) Enrolment at Primary Stage Classes I—V	3.150 millions	5.900 millions	4.200 millions	6.500 millions	55
(*iv*) Enrolment as percentage of age group	43	70	46	65	41
(*v*) No. of Primary Teachers Training Institutes	53	53	53	70	32
(*vi*) Annual Output of Primary Teachers	10,400	10,400	10,000	15,000	50
(*b*) *Middle/Junior Stage* :					
(*i*) No. of middle/junior high schools	2,845	4,445	3,300	5,300	60
(*ii*) Enrolment at middle/junior stage, Classes VI—VIII	0.446 millions	1.200 millions	0.900 millions	1.400 millions	56
(*c*) *High Stage* :					
(*i*) No. of High Schools (Classes IX & X)	1,682	1,922	1,900	2,400	26
(*ii*) Enrolment at High Stage (Classes IX-X)	0.273 millions	0.398 millions	0.375 millions	0.550 millions	47
(*iii*) No. of training institutions for Secondary School Teachers	14	17	14	18	29
(*iv*) No. of Education Extension Centres	1	4	4	5	25
(*v*) Annual output of secondary school teachers	3,200	3,500	3,100	4,500	45

1	2	3	4	5	6
(d) *Technical Education*:					
(i) No. of Vocational Institutes/ Technical High Schools ..	35	70	40	100	150
(ii) Enrolment of Matric Tech ..	—	—	5,000	40,000	700
(iii) Admission capacity to Vocational Courses/Matric Tech ..	3,500	25,000	5,000	22,000	340
(iv) Annual output of Matric Tech.	3,000	—	4,750	15,000	216
(v) No. of Polytechnics/Technical College (including Swedish Pakistan Institutes	10	24	19	25	32
(vi) Admission capacity to technician courses in Polytechnics/ Technical Colleges	1,884	7,000	3,500	7,000	100
(vii) Enrolment in Polytechnics/Technical Colleges	—	—	9,000	18,000	100
(viii) Annual output of diploma level technicians Intermediate Tech.	1,269	2,800	2,500	4,000	60
(e) *Engineering Education*.					
(i) No. of Engineering Institutions (including WPUET) ..	5	5	5	6	20
(ii) Admission capacity to graduate engineers	1,123	1,800	1,500	1,800	20
(iii) Annual output of graduate engineers	413	875	873	1,000	15
(f) *College Education* (General):					
(i) No. of Intermediate Colleges ..	109	—	145	175	21
(ii) Enrolment at Intermediate Stage	0.090 millions	—	0.140 millions	0.195 millions	39

TABLE XI

FINANCIAL ALLOCATION AND EXPECTED IMPLEMENTATION FOR THE THIRD PLAN PERIOD AND ALLOCATION FOR THE FOURTH FIVE YEAR PLAN IN EDUCATION AND TRAINING SECTOR

Pakistan

(Million Rupees)

Sl. No.	Sub-Sector	Third Plan Allocation	Expected Implementation	Proposed Fourth Plan Allocation	%age increase over Third Plan
1	2	3	4	5	6
1.	Primary Education	318.51	173.340	547.00	71.1
2.	Secondary Education	554.18	314.697	675.00	21.6
3.	Teacher Education	81.01	38.201	145.00	78.0
4.	Technical Education including Engineering Colleges and Universities.	615.76	274.980	920.00	49.4
5.	Colleges (General)	115.04	86.574	365.00	218.7
6.	Universities (General)	278.57	173.745	340.00	22.0
7.	Scholarships	170.43	138.209	266.00	56.0
8.	Madrasahs	14.00	5.140	25.00	74.0
9.	Social and Cultural activities including Library Services	54.25	35.032	127.00	134.1
10.	Special Areas	29.71	20.748	40.00	34.6
11.	Tribal Areas	—	—	10.00	
12.	Adult Education	—	—	85.00	
13.	Preparation of Projects, Implementation, Administration and Supervision	—	—	10.00	
14.	Research, Curriculum Development and production of textbooks	—	—	55.00	
15.	Educational Television	—	—	15.00	
16.	Surveys, Statistics, Planning and Public Administration	20.28	23.049	30.00	47.0
17.	Publicity Schemes	10.00	4.327	10.00	
18.	Provision for the Implementation of the recommendations of the Commission on Students problems and welfare	50.00	—	—	
19.	Central Government Educational Institutions	27.00	23.114	Allocation provided under various sub-sectors.	
20.	Studies for the Fourth Plan (Planning Division)	2.50	2.500		
21.	Special Projects	15.81	14.666		
	Total	2,374.55	1,328.322	3,665.00	54.3

TABLE XII

FINANCIAL ALLOCATION AND EXPECTED IMPLEMENTATION FOR THE THIRD PLAN PERIOD AND ALLOCATION FOR THE FOURTH FIVE YEAR PLAN IN EDUCATION AND TRAINING SECTOR.

East Pakistan (Rupees in Million)

Sl No	Sub-Sector	Third Plan Allocation	Expected implemen tation	Proposed 4th Plan Allocation	% increase over Third Plan
1	2	3	4	5	6
1	Primary Education	250.00	148.598	405.00	62
2	Secondary Education	260.00	185.197	400.00	54
3	Teacher Education	45.00	23.146	100.00	122
4	Technical Education including Engineering Colleges and Universities	357.00	170.372	630.00	76
5	Colleges (General)	51.00	22.416	220.00	331
6	Universities (General)	150.00	102.792	170.00	13
7	Scholarships	66.00	55.599	125.00	89
8	Madrasahs	14.00	5.140	25.00	79
9	Social and Cultural Activities including Library Services	9.00	14.994	50.00	45
10	Adult Education	—	—	50.00	—
11	Preparation of Projects, Implementation, Administration and Supervision	—	—	5.00	—
12	Research Curriculum Development production of text books	—	—	20.00	—
13	Survey, Statistics and Planning, Public Administration	10.20	10.777	30.00	194
14	Special Projects	26.00	5.066	—	—
	Total	1,238.20	744.097	2,230.00	80

TABLE XIII

FINANCIAL ALLOCATION AND EXPECTED IMPLEMENTATION FOR THE THIRD PLAN PERIOD AND ALLOCATION FOR THE FOURTH FIVE YEAR PLAN IN EDUCATION AND TRAINING SECTOR

West Pakistan

(Rupees in Million)

S. No.	Sub-Sectors	3rd Plan Allocation.	Expected Implementation	Proposed Fourth Plan Allocation.	Percentage increase over Third Plan implementation
1.	2	3	4	5	6
1.	Primary Education.	68.51	24.742	115.00	68
2.	Secondary Education.	294.18	129.500	253.00	14
3.	Teacher Education.	36.01	15.055	45.00	25
4.	Technical Education. (including Engineering Colleges and Universities).	258.76	104.608	290.00	12
5.	Colleges (General)	64.04	64.158	135.00	111
6.	Universities (General)	91.95	48.434	90.00	2
7.	Scholarships	91.00	71.091	121.00	33
8.	Madrasahs	—	—	—	—
9.	Social and Cultural activities including library services. ..	2.23	1.452	22.00	887
10.	Special Areas.	20.71	14.499	25.00	21
11.	Adult Education	—	—	35.00	—
12.	Preparation of Projects, Implementation, Administration and Supervision.	—	—	5.00	—
13.	Research Curriculum Development and production of text books.	—	—	15.00	—
14.	Provision for the Implementation of the recommendation of the commission on students problems and welfare.	50.00	—	—	—
15.	Public Administration.	1.00			
16.	Special Projects.	9.81	9.600		—
	Total: ..	988.202	483.139	1150.00	16

TABLE XIV

FINANCIAL ALLOCATION AND EXPECTED IMPLEMENTATION FOR THE THIRD PLAN PERIOD AND ALLOCATION FOR THE FOURTH FIVE YEAR PLAN IN EDUCATION AND TRAINING SECTOR.

Centre

(Rupees in Million)

S. No.	Sub-Sectors	Third Plan Allocation	Expected Implementation	Proposed Fourth Plan Allocation	Percentage increase over Third Plan.
1.	Primary Education	—	—	27.00	—
2.	Secondary Education	—	—	22.00	—
3.	Teacher Education	—	—	—	—
4.	Technical Education including Engineering Colleges and Universities	—	—	—	—
5.	Colleges (General)	—	—	10.00	
6.	Universities (General)	36.62	22.519	80.00	118.0
7.	Scholarships	13.43	11.519	21.00*	93.2
8.	Social and Cultural Activities including Library Services	43.02	18.586	55.00	27.8
9.	Special Areas (Azad Kashmir & N. A.)	9.00	6.249	15.00	66.6
10.	Tribal Areas	—	—	10.00	—
11.	Educational Television	—	—	15.00	—
12.	Research Curriculum Development, production of text books	—	—	20.00	—
13.	Survey, Statistics, Planning and Public Administration	9.08	12.272	—	—
14.	Publicity Schemes	10.00	4.327	10.00	—
15.	Central Government Educational Institutions	27.00	23.114	Shown separately.	—
16.	Studies for the Fourth Plan (Planning Division)	2.500	2.500		—
	Total:	148.15	101.086	285.00	92.3

* Includes 5.00 million for Establishment Division.

CHAPTER 13

LABOUR POLICY AND SERVICES

An industrialising society requires to build up a large, diversified and contented industrial labour with a wide range of professions and skills. This involves various inter-related processes including recruitment, commitment, upgrading, and security. Only a purposeful and sustained effort aiming at an improvement in all the aforesaid processes can ensure that the country has adequate resources of technical and skilled manpower, can provide opportunities for employment and can maintain industrial peace.

2. Since science and technology generate continuous change, new skills and occupations are constantly replacing the old ones. Thus, industrialism requires an educational system functionally related to the skills and professions necessary to its technology. The variety of skills, responsibilities and employment conditions at the work place create a new ordering or structuring of society. As a result of this process, the working force is governed by a set of rules which prescribe such things as hiring, compensation, lay offs, promotions, shift changes, transfers, requirements, and discipline in the work place.

3. Neither reliance upon a single course of action nor the pursuit of separate and unrelated policies will lead to the development of a trained, vigorions and committed labour force. A cooperative effort involving government, industry, the workers, the educational system, and professional and other groups is called for. The following objectives must be pursued simultaneously :

OBJECTIVES

(*i*) To expand the facilities and improve the methods used to train skilled and trained manpower.

(*ii*) To provide equal opportunities for all citizens to acquire skill.

(*iii*) To provide work for those who are unemployed or partially unemployed.

(*iv*) To promote the employment of women and eliminate employment of children.

(*v*) To develop an effective programme of employment counselling.

(*vi*) To achieve industrial peace by establishing the relative rights and responsibilities of workers, managers and entrepreneurs and the state, and to bring about a balanced power relationship between them.

(*vii*) To achieve safety and security for the employed labour force both on and off the job,

(*viii*) To improve the living standard of the workers by raising their real wages and to provide social security and welfare.

(*ix*) To develop more reliable statistics, information and studies about various aspects of training, labour, manpower and employment.

PAST PERFORMANCE

4. The Third Plan contained a systematic programme which was large in size and broad-based in nature. It contained a wide variety of programmes for skill development, optimum utilisation of skilled manpower, vocational guidance and employment counselling, improvement of labour market and placement, enforcement of statutory and administrative measures for the security, safety and

welfare of workers. But the achievement in this sector fell short of the targets to a great extent due to inadequate organizational arrangements, lack of initiative and drive on the part of executing agencies and lack of proper financial support. However, progress relating to the modernisation of existing techincal training centres and opening of new training centres for skilled labour, setting up of advisory offices for apprenticeship training, vocational guidance and youth employment units and welfare centres for industrial labour was relatively satisfactory. As the Fourth Plan assigns high priority to the development of the country's human resources, the programme in the field of labour policy and services has to be broader, both financially and functionally. Policies and programmes in various areas were recommended in the Third Plan and action to be taken by relevant agencies was indicated. In general terms, these recommendations to the extent these have been implemented may be taken as the point of start during the Fourth Plan. A broad framework for action in various areas during the Fourth Plan period is provided below.

POLICIES AND PROGRAMMES

Training and Skill Development

5. The stock of skills in Pakistan is meagre. The situation with regard to skilled workers is even worse. The rapidity of expansion of the modern sector has put considerable pressure on skills. The Fourth Five Year Plan envisages a big absolute increase in the modern sector, a heavier emphasis on more sophisticated products and capital goods, a need to develop industrial exports and to operate in a less protected economy. If these tasks are to be performed, the present make-shift arrangements for increasing training facilities have to be improved. A broad picture of current and future manpower situation has been presented in a separate Chapter on Manpower and Employment of this document. But estimates of skill requirements and specifications of skills produced through institutional and on-the-job training programmes are not yet available. The Third Plan, which did not present the existing stock of skills, had brought out large scale disequilibrium between demand for and supply of skilled workers at the certificate level and below. As the expansion of training facilities envisaged in the Third Plan has fallen far short of the targets and the Fourth Plan Programmes are much larger in size and magnitude, the Fourth Plan will start off with a potentially weak base and as such will call for skill development at a pace fast enough to catch up with the huge pressure on skills.

6. There can be no question that skill of the work force must be upgraded as part of the process of economic development. An enumeration of different economic benefits that could accrue from the training and upgrading the skill of the workers need not be made. However, among the more important ones would be increased productivity of workers (and therefore higher earnings), imparting of modern skills by the trained workers to their fellow workers and future generation and adoption of improved health and safety standards by them. Another benefit that may be of crucial importance is the effect that the better trained workers may have on their employers in encouraging them to adopt more modern and better production standards and more stable industrial relations.

7. *Skilled labour training centres*:—Presently the industry in Pakistan has neither the capacity nor the facility and the expertise to meet its present and projected manpower needs through apprenticeship alone. Therefore the government should continue to give a lead by setting up training centres for providing training on a short term intensive basis under realistic conditions. In the skilled labour training centres set up with the assistance of I.L.O., United States, West Germany and the Netherlands the emphasis is rightly on the practical rather than the theoretical aspect and the basic purpose of the training is to produce workers for successful employment in industry and not to prepare for high academic studies. It is recommended that that the number

of such centres be increased to provide better coverage of different areas and industries. Accordingly, at least ten such new centres should be set up in each wing of the country, besides modernizing and expanding the facilities in the existing centres.

8. *Pre-service training*:—The bulk of this training is provided by government vocational/technical training institutions. It is comparatively expensive and contributes only a fraction of the country's growing requirement. Moreover, the training imparted in such institutions is not well coordinated with industry. There is, therefore, an urgent need to reorganize government centres to meet the following objectives :

(*a*) To train only in courses on sophisticated and advanced techniques and trades which may not be possible for industrial units to organise at this stage of our development.

(*b*) To give a more practical bias to training. It would be better to attach the trainees with appropriate factories for some months in a year.

(*c*) To act as model institutions for the industry to copy.

9. The output of the existing training institutions which is insignificant in the face of huge current shortages, needs to be augmented substantially. This should be achieved more through expansion of the existing centres than by setting up new centres.

10. *Apprenticeship training*:—Training programmes in the public sector alone cannot cater to the growing needs of industries and unless the industrial establishments in the private sector take upon themselves the responsibility of meeting their skill requirements, serious shortages in trained manpower are bound to continue. A beginning toward this end has been made both in East and West Pakistan since 1966, through apprenticeship programmes under the Apprenticeship Ordinance of 1962. It is expected that the Provincial Governments will move in this directions in a big way which will pave the way for progressive expansion of these programmes during the Fourth Plan period.

11. There is an urgent need to reorganise the apprenticeship schemes so as to render the programme capable of creating an impact on the supply of skilled workers and to systematise it in order to develop greater copperation between the Provincial Labour Departments and industrial establishements in this regard. The target for apprenticeship training should be an annual training capacity of 30,000 by 1975. Eight apprenticeship advisory offices may be set up in East Pakistan and six in West Pakistan.

12. *Long apprenticeship scheme*:—Besides the normal well-known and understood apprenticeship training, there is additional need for enforcing a scheme of apprentice training of long duration in order to give the young boys more time to get familiar with new industrial life, which is most important for an agricultural society like Pakistan. The aim of this scheme should be to enroll the boys of 12/13 years beetwen VI and VIII classes who being unable tocontinue further education will be drifting away, and impart them education with a bias towards related technical instructions and basic technical training for five years, in collaboration with the industry. This scheme should be launched in a phased out manner and in order to make it successful it should be organized in cooperation with the subject-matter Departments like Defence, Education and Labour and organisations of labour and industry.

13. *Industrial training levy:*—Experience with the working of Apprenticeship Ordinance has necessitated the introduction of some supplementary legislative measures to fulfill the object of increasing trained manpower in industries. The effort should be to make every employing organisation a training organisation. Employers should be given complete responsibility for training their work force. Unless they are encouraged through certain incentives and are convinced that the training would benefit them most, no improvement in the situation can be expected. This scheme could be financed primarily by a levy-rebate system under which firms could be required to pay a nominal levy to the training organisation proposed later in this chapter on the basis of their total employment and those which undertake suitable training programmes under the scheme should then be paid back a certain rebate based on the total number of trainees.

14. An alternative approach could be the setting up of the requisite number of basic training centres where the fresh apprentices are provided theoretical instruction and elementary training for one year whereafter they could be taken over by the employing organisations for the remaining practical training.

15. As a first step to mount a training effort of the type described above, it would be desirable to undertake a careful study of the cost and benefit of the proposed system. It would not be advisable to undertake a task of this magnitude until the capacity of industry to assume the responsibility for training and financial implications of the proposal have been fully studied.

16. *Utilization of present facilities:*—The urgency of the present situation requires that the pace and quality of production of skilled manpower through the existing training facilities should also be speeded up and geared along the following lines :

(*i*) The established government technical and vocational training centres should increase their intake to the maximum.

(*ii*) The government and semi-government establishments including factories, railways, dockyards, shipyards, post offices, telecommunication organizations, hospitals, health services, family planning institutions, financial institutions etc. having training facilities should increase the intake to the maximum in order to meet some requirements of the industry too.

(*iii*) The Defence Ministry may also help the training effort by training apprentices in the required trades in Defence Industry and Defence base Installations.

(*iv*) Philanthropic organizations should also be advised and helped to open technical schools or convert some of the existing schools into technical schools.

17. *Training for other categories of workers:*—The Third Plan made several recommendations for the training of self-employed artisans, creation of a craftsmen's technological service and dissemination of information through mobile demonstration units in rural areas and evening classes in existing institutions in urban areas, special training arrangement for construction workers, training of seamen and training of released servicemen. No progress has been made in these areas. Immediate steps should be taken to organize these programmes on the lines recommended in the Third Plan.

18. *Improvement and upgrading of workers:*—Improving the quality of workers and their upgrading is even more important than the training of raw hands. Several advantages would accrue through close and coordinated action by industry and training institutions. The industry, because of lack of skilled workers, has to spend a substantial amount of money on the upkeep of machinery. It is, therefore, essential that industry should provide maximum opportunities for organized training to workers. They should be allowed to use the facilities available in the technical and vocational training centres through evening classes. The ideal will be to provide opportunities systematically for additional training and further education throughout each individual worker's career with the following aims :

(*i*) Upgrading of individual's qualifications to do his particular job better.

(*ii*) Providing additional training to workers in order to enable them to advance to the next higher position and facilitate vertical mobility.

(*iii*) Providing opportunities to workers to keep themselves abreast of the technical advances.

19. It is very important to open avenues of training for young men already in employment and with potentials of advancement through special training arrangements outside the regular training institutions. This may be done by organising evening teaching classes for suitably educated and trained industrial workers who wish to improve their qualifications by working for a degree or a diploma. Instructors for such courses could be drawn from the industry on a part-time basis. Practical training needed on elementary training equipment not commonly used in industry, should be arranged with the nearest engineering college or polytechnic institute. A successful experiment of this kind has already been carried out in the Pakistan Ordnance Factory, Wah. The result of this experience should be studied and the desirability of its extension to some other suitable places and areas, such as Dacca, Chittagong, Machine Tool Factory at Joydebpur , Karachi, Lahore, Railways, WAPDAs may be considered.

20. *Creation of standards of excellence:*—Woven in the fabric of technical and vocational training are several factors which need to be incorporated simultaneously. Pride should be inculcated by fostering the establishment of professional groups and societies, and in particular for prominent skills. This is necessary in order not to give rise to frustration among the educated or trained unemployed. The model to be developed could be based on the old guilds or craft unions which should be helped to evolve standards of excellence. Within themselves they should also develop permanent learning and relearning techniques for upgrading and improving skills at various levels and keeping abreast with the changes in tech- nology and production processes.

21. Other programmes of in-service training need also to be developed and expanded in order to have an integrated approach toward raising levels of efficiency in all branches of economic activity.

22. *Need of uniform standards:*—The level of training, their nomenclature, length of training, nature of examination and award, and also the system of administration vary from institution to institution. For bringing about uniform standards and removing existing wide variations in quality of instruction and use of equipment, a thorough physical review of these institutions is called for by senior technical officers. Besides, close coordination among government and private institutions responsible for providing training facilities on the one hand, and between institutions which offer training and those which employ trainees on the other, is necessary, for in this way can there be assurance that training is matched with the employers' requirements. The cooperation of the trade unions should contribute to the success of the programmes.

23. To deal comprehensively with these problems, autonomous training organizations composed of the representatives of government, industry and workers, should be set up at the provincial and, if necessary, at the national levels. the proposed training organizations should be made responsible for evolving policies on training, establishing standards for training and prescribing examinations and tests, surveying and appraising training facilities and their capacity and quality, determining needs of various branches of economic activity, bringing about cooperation between public authorities and private organizations, coordinating technical assistance to institutions and undertakings which require it and recommending financial assistance to institutions.

Management Development and Workers' Education

24. Management development is a crcial element in a programme of human resources development. Raising of productivity is largely a matter of management attitude and actions. What has been done so far by the universities and existing institutions is not significant in relation to the present and increasing needs. Education of workers for healthy labour management relations remains an important need.

25. Most of the existing management is not professional. It is, therefore, essential that a system of proper management education should exist for training of executives at all levels. Every university should be encouraged to have Business Administration courses. The present Business Management and Business Education courses being offered by the existing institutions should be scrutinized and feed back from industry should be made possible. Productivity Councils should be set up at the national and regional levels to deal with various policy measures concerning productivity and actions needed for raising productivity.

26. Training of trade union workers is likewise essential to develop an informed, competent and responsible trade union leadership. Training in this field is imparted by the National Institute of Labour Administration Training and the Provincial Institutes of Industrial Relations. The facilities provided by these institutions, besides being inadequate, are also not well coordinated. It is necessary that the programmes of these institutes are carefully examined in the light of total training needs of the country so as to avoid duplication of efforts and determine additional needed training facilities. The existing institutions should be strengthened and improved and additional institutions set up in other areas under a well coordinated programme so that the training activities of all the institutions advance together in a systematic manner.

Labour Market Service

27. It is not merely the lack of employment opportunities that keeps the level of unemployment and underemployment high. There are many other factors like an unregulated system of recruitment in the private sector, inadequacy of public employment service, lack of facilities for employment counselling and vocational guidance and lack of research in devising indigenous ways of promoting employment which have an important bearing on creating a situation of under-utilization of manpower. It is therefore desirable that the services required to deal with these problems be developed and strengthened on an effective basis. Half way measures are of no avail.

28. The Third Plan recommendations regarding establishment of university placement bureaus, placement of high level personnel, introduction of a comprehensive and integrated programme of vocational guidance and employment counselling, improvement and reorganization of employment exchanges, undertaking research about the organization and methods of rural employment promotion, initiation of research and advisory functions relating to regulating of employment of Pakistanis in foreign employment markets etc . have made little head-way. These recommendations need serious consideration for early implementation.

29. *Employment exchanges*:—The development of an effective employment exchange system is of the highest importance in this country where the employment market is characterised by a large supply of unskilled workers. But the system which is a legacy from the British India, has continued to function along traditional lines. The Second and Third Plans identified the weakness in the system and recommended several measures to revitalize and improve the system. But no dynamic effort has been made to improve the situation. The system has, therefore, continued to perform a poor service and has not been able to win the confidence of employers as well as the employment seekers. The system can hardly contribute effectively to the solution of the employment market problems until it is reorganized to undertake the functions recommended in the Second and Third Plans, which are re-affirmed.

30. In order to undertake these functions, the employment service organization should be provided enough funds to recruit and retain competent staff and establish them in suitable and functionally designed premises. Adequate arrangements should be provided for staff training, preparation of Instruction Manuals, inspection, research and planning. The premises should be improved in appearance, standards of cleanliness, furnishing and reception. Transport facilities should be provided to enable the employment exchange offices to undertake continuing employers visitation programmes. It is recommended that as a first step, a few model exchanges should be set up in large towns for undertaking the above functions. Further increase in the number of offices should be made after the system attains a generally high standard. The ground will then be ready for subjecting the employers to the obligation of notifying all their vacancies to the employment exchanges.

31. *Rural employment promotion:*—The Third Plan recommended the setting up of pilot projects for rural employment promotion. Two projects have been started only in West Pakistan. The objective is to determine the most effective methods and most suitable schemes for the optimal use of under-employed labour, with maximum reliance placed on the efforts of the local population. The results of these projects are not yet available. Setting up of similar projects in East Pakistan should be expedited. Experience gained from the results of these and also a few other projects, which may be set up in other areas, should be utilized in framing future policies and programmes for better utilization of rural manpower.

32. *Gainful employment of Women:*—There do not exist systematic channels within the government agencies for consulting women organizations, collecting information as regards the supply and demand of women workers and other information regarding the employment of women. A small bureau should be set up in the Labour Departments to fill up the gap. The bureau should make continuing studies of the existing employment situation of women, the prospects for increasing their gainful employment and suggest action programmees for various executing agencies.

Labour Policy

33. Orderliness and system are seriously lacking in labour management relations. A system needs to be evolved which should enable workers and employers to pull their full weight in the task of economic development and of increasing the welfare of workers and the community as a whole. In June 1969, the Government announced a new Labour Policy redefining the objectives and laying down guidelines to harmonize the labour management relations and improve the working conditions and welfare of workers. The Policy provides, among other things, for fixation of minimum wages for unskilled workers at specified rates, introduction of a new Industrial Relations Ordinance, setting up of a Workers' Welfare Fund and amendment of various laws dealing with occupational health, safety, hygiene and conditions of work.

34. There is need to go much beyond the stage of a mere statement of policy guidelines. It would be worthwhile to undertake systematic program analysis, lay down specific and meaningful targets, make continuing appraisal of the progress and adjust policies and programmes in the light of evaluation.

Wages and Welfare :

35. *Wages:*—Increase in wages and other monetary demands figure prominently in the disputes raised by workers. Besides, there has been a widespread feeling among the workers that they are not being given their due share in the fruits of increasing production. These had become causative factors for loss in production through frequent cessation of work and low productivity. The Third Plan had recommended a number of policy measures on wages. Little attention was, however, paid to give effect to these recommendations. The new Labour Policy has, *inter alia*, fixed the minimum monthly rates of wages for unskilled workers in industrial and commercial establishments employing 50 or more workers at Rs. 140 for Karachi metropolitan area, Rs. 125 for other major industrial centres and Rs. 115 for the remaining areas. The Provincial Governments have already enacted legislation to give effect to this measure and have revised upwards the rates of wages in a number of industries. It is expected that this action will result in firming up the wages in small industries. It is necessary that the wage rates should be reviewed continually and redetermined from time to time. The Wage Boards should be strenghened and equipped adequately to perform these functions effectively. In addition, the composition of the Boards should be revised to include representatives of workers and employers.

36. *Protection to earnings:*—Immediate steps should be taken to improve and strengthen the various measures which afford protection to the earnings of industrial workers as recommended in the Third Plan. These include steps to place on statutory basis the protection afforded to the labour employed by contractors, extend the coverage of Payment of Wages Act, which has a limited application, to cover all employees and to make administrative arrangements for enforcement of collective agreements, decisions of industrial courts and implementation of wage rates fixed by the Wage Boards.

37. *Workers' participation in profits:*—The controversy over payment of bonus, which is too strongly ingrained in the industrial relations habits, requires to be eliminated through detailed and thorough study of the problems connected with it and by evolving principles for its payment. Evidently, bonus is paid out of profits and as such is a sort of workers' share in profits. Bonus is, however, not regulated and remains, by and large, an *ex-gratia* payment, sometimes dependent on the bargaining power of the employers and workers in individual establishments. In order, therefore, to bring about orderliness in the bonus system, it is necessary to institutionalise it by integrating it into an overall scheme of profit sharing in consulatation with employers and workers. The Companies Profits (Workers Participation) Act, 1968 is first of its kind in Pakistan. It allows the workers 2½% of the Company's profits as their share and entitles them to receive dividends out of it. It is a judicious and well-conceived step and it is necessary to ensure that it is enforced effectively. In addition, careful consideration should be given to give effect to the recommendations of a Study Group set up in 1969 on "Profit Sharing", which provided for the revision of the Companies Profits (Workers Participation) Act, 1968 so as to provide additional benefits to workers such as increase of workers' share in the profits, and giving workers the first right to participate in the future issue of shares.

38. *Social security:*—Social security has been recognised as a distinctive feature of a modern economy with an expanding industrial sector. The Third Plan recommended an integrated social security system for industrial workers envisaging

protection under the existing Social Insurance Ordinance (*i.e.* employment injury, maternity and sickness) together with provisions of statutory superannuation benefits through pooling of existing provident funds and their extension. Whereas the Social Security Ordinance has been put into operation in West Pakistan since March 1967, even though it is moving slowly, its enforcement has been considerably delayed in East Pakitan. Vigorous efforts are, therefore, needed to enforce and expand the programme as regards persons protected, geographical areas covered, size of establishments included and types of benefits provided. Simultaneously, steps should be taken to merge the existing provident funds into a genuine contributory social insurance plan for old age as recommended in the Third Plan.

39. The scales of compensation and benefits under the existing Workmen's Compensation Act, and maternity benefit legislation have become outmoded. These should be revised expeditiously. Simultaneously, strong steps should be taken to reduce the hazrds of employment by strict enforcement of safety standards and accident prevention programmes.

40. *Labour Welfare Centres:*—A number of welfare centres have been established, mostly in East Pakistan. Additional centres may be set up in specific industrialized locations and isolated areas. Consideration should also be given to the financing of these centres by employers. A programme should be established in the Provincial Directorates of Labour to plan and coordinate the activities of welfare centres, to study and introduce modern welfare for industrial workers and advise the government and private industrialists on problems of labour welfare.

41. *Housing for industrial workers:*—The enactment of a housing legislation as recommended in the Third Plan has been delayed and should be expedited. The new labour policy has provided for setting up of a rotating welfare fund to supplement the effort of private employers in initiating a low-cost housing programme for the workers. As the problem of housing for industrial workers is very actute, the programme should be implemented without delay.

42. *Other welfare programmes:*—Organization of coorperative stores and consumers cooperative thrift societies can contribute immensely towards increasing the real wages of the workers. This programme should be initiated and closely integrated with the programme of welfare centres, described above.

Labour Relations

43. Labour unions in Pakistan have been generally weak and their growth has been extremely slow. Some estimates place trade union membership at about one-quarter of the industrial labour force. A very large proportion of the workers are obviously outside the unions. A number of factors account for the slow growth of union membership and the weaknesses of existing unions. Government machinery in the past has been aimed at stifling the expression of industrial strife. The Government departments were so organized that the inspection, conciliation and enforcement functions were concentrated in the hands of the same person. Such a situation was an open invitation to the abuse of this power. At the same time, the workers are largely uneducated and used to the tenant-landlord relationship which is the model of authority they know best. Also since the labour force has a high degree of mobility between urban and rural areas, it has been difficult to build up traditions of industrial work. Employers, generally first generation industrialists, are unappreciative of the role that motivated workers can play towards improving productivity and profits. They have generally actively discouraged labour union participation by threats of dismissal and other punitive acts. The Industrial Relations Ordinance, 1969 has made necessary provisions so that the workers' viewpoints and demands can be effectively voiced.

44. The Industrial Relations Ordinance, 1969 has attempted to consolidate the provisions of the previous laws on trade unions and industrial disputes into a single comprehensive law and includes some new measures for harmonizing the labour management relations. Inclusion of the new concept of collective bargaining agent, voluntary arbitration, check off system and setting up of appellate tribunals in the Industrial Relations Ordinance are some of the improvements on the previous legislation. To prevent wild cat and lightening strikes and to avoid unnecessary disruption of work and production, immediate bilateral discussion between labour and management has been provided as a first step before arbitration. This cooling-off period may be helpful in avoiding strikes. There is need to make a continuous appraisal of the working of the law with a view to revmoving shortcomings and providing additional measures if required.

45. At present there is no machinery to see that the awards of the Labour Courts or agreements reached as a result of collective bargaining are implemented and faithfully observed by the concerned parties. Failure to implement the awards and agreements has been a common complaint of the parties. Thus, instead of securing peace in the industry, which is the essential purpose behind the awards and agreements, the spirit of litigation grows further and delays attendent on legal processes give rise to widespread dissatisfaction. In addition, there is need to undertake a systmatic analysis of awards given by the industrial courts in order to gain insight into the issues which mar amity in industrial relations. A unit should, therefore, be created to undertake the analysis of the awards and to ensure strict observance by the parties of their obligations and take proper action in case of breaches.

46. As part of the development of healthy labour management relations, it is essential to organize an intensified programme of spreading education among the workers through audio-visual aids, films and publication of various types of simple and practical manuals, booklets, pamphlets and similar material. The films and material proposed to be produced should deal with various aspects of labour management relations, trade union activities and economic and social problems of interest to workers. The reading material and films may be prepared in cooperation with trade unions and other interested organizations.

Occupational Health, Safety, Hygiene and other Conditions of Work

47. Safety around work places, healthy environment, clean surrounding and provision of amenities like availability of drinking water, facilities for washing, bathing and toilet, canteens and eating places, rest and recreation, creches, reading rooms etc., all lead to increasing the general level of workers' efficiency. Special provisions are needed for employment of women and for control of employment of children. Protective labour laws were enacted long ago, in some cases as far back as 1923. A great deal of water has since passed under the bridge. In order to cut the old woods and plan new fences, a review of safety sections in relevant laws, particularly the legislaion relating to factories, mines, docks and ports, is necessary. Proposals for over-hauling the various laws dealing with occupational health, safety, hygiene and conditions of work were made during the Third Plan, which need to be expeditiously implemented.

48. The Third Plan recommended the establishment of one safety and health institute in each province and two mine rescue stations in the coal-mining areas of West Pakistan. Of these, only one scheme relating to setting up of a Rescue Station, Quetta has so far been taken up. Action needs to be speeded up to undertake the remaining projects and to initiate additional projects during the Fourth Plan.

Agricultural Workers

49. The Third Plan provided for regulating the conditions of employment of agricultural workers in cotton and fruit plantations in West Pakistan and amendment of Payment of Wages Act to provide protection to landless agricultural labourers against inadequate and non-payment of wages. The implementation of these recommendations should be expedited. Moreover, consideration should be given to fixation of minimum rates of wages for agricultural workers.

Labour Productivity

50. In order to gauge the improvement or deterioration in the productivity trends, it is essential to build up a series of labour productivity rates on a continuing basis. One major advantage of labour productivity rates is to use them as technical coefficients in projecting future employment patterns. Measurement of productive efficiency of the workers is yet another principal aim of these rates. The data required for working out the rates of labour productivity are lacking and need to be developed. Further, in order to give concentrated attenton to this area of work, it would be desirable to set up productivity councils, as recommended in paragraph 25 earlier, for training productivity specialists and organising programmes of work study, production planning and quality control. If genuine efforts are made to develop on a continuing basis an authentic series of labour productivity rates, the stage will be set for linking, in some way, of wage rates to productivity rates.

Labour Administration, Conciliation and Inspection Machinery

51. The new Labour Policy has provided for setting up three separate services of Registrar of Trade Unions, the Directorate of Inspection and Enforcement and the Concilation Service. Moreover, additional industrial courts will be set up. Strengthening of these services along these lines is very important. The enforcement of labour laws is known to be spotty and incomplete. The number of officers responsible for enforcement of laws is too few for useful administration, inspection and conciliation work. The laws can be effective to the extent they are enforced. The number, quality and organization of the above services should, therefore, be greatly improved, keeping in view the functional and geographical scope of the problems to be dealt with so that these services may not exist merely as passive neutral agencies but should rather play an effective role in the promotion of a viable system of labour relations.

52. Along with expansion in the number of industrial courts, consideration should be given to the eventual merger of these courts with the country's judicial system. But their special nature and approach in deciding industrial disputes should not be changed. The judicial officers at some stage of their service should be brought on to the industrial courts in order to acquire an intimate knowledge of the specialized nature of the work of industrial courts. When the number of industrial courts is increased, such officers as have been trained, can be appointed to serve on these courts.

Analysis, Labour Research and Statistics

53. An essential function in the field of labour policy and services is analysis of administrative performance, conduct of research and collection of needed facts. The work of existing agencies dealing with labour statistics requires review to determine priorities and division of work among them. Strengthening of research is needed in order to better understand the labour questions, clarify the relationships between different factors in economic and social development, enable goals to be realistically defined and projects prepared towards the attainment of these goals. On the research side, a leading task of these units should be evaluation of

the administration of labour laws and operaional activities, and examination of methods applied in these activities with a view to making adjustment and adaptation of techniques to different situations. Other tasks include increasing collaboration and liaison among the statistical agencies in planning for needed data on all aspects of labour.

54. There is no single unit charged with the primary responsibility of keeping under constant review the various recommendations and decisions of Labour Conferences, Labour Advisory Boards and similar bodies. A spate of I.L.O. reports has been submitted to the Government as a result of missions undertaken by I.L.O. experts invited by the Government. These reports cover practically all aspects of labour and manpower. In addition, delegations attend various international conferences which lead to certain conclusions and recommendations. Arrangements do not exist for a systematic study of these reports so as to take appropriate action in case of feasible recommendations. The purpose of these recommendations is thus defeated. Units should, therefore, be set up in the Labour Departments to evaluate the various recommendations and reports, define their provisions, ensure their prompt implementation and carry out special investigations so as to be fully informed of new developments and anticipate new problems.

Financing and Physical Targets

55. A provision of Rs. 140 million is made for the programmes in the public sector. Of this, Rs. 70 million are allocated for the programme in East Pakistan, Rs. 60 million in West Pakistan and Rs. 10 million in the Centre. It is important that recurring expenditure needed for various plan programmes is fully ensured. Besides, a substantial amount should be mobilized from the private sector. The details of the public sector allocation are presented in tables IV, V &, VI.

56. It is difficult to quantify all the physical targets of the programmes. Some of the important targets are presented in tables I,II and III.

TABLE I

Benchmarks and Physical Targets for the Third and the Fourth Five Year Plans in the Labour Policy and Services Sector

Pakistan

(In numbers)

Sub-sector	Bench-mark for the Third Plan (1964-65)	Target (addi-tional) for the Third Plan (1969-70)	Bench-mark (cumula-tive) for the Fourth Plan (1969-70)	Target (addi-tional) for the Fourth Plan (1970—75)	Percent increase over 1969-70
1	2	3	4	5	6
I. Training and Skill Development					
1. Setting up of Technical Training Centres	7	11	11	20	82
2. Expansion of Technical Training Centres	—	6	6	11	83
3. T.T.C. for Released Defence Personnel	—	2	—	2	—
4. Setting up of Apprenticeship Training Advisory Offices/Instruction Centres	7	3	10	14	40
5. Expansion of Apprenticeship Advisory Offices	—	—	—	4	—
6. Seamen's Training Centres ..	—	2	—	2	—
7. Management Development Centres/Sub-centres	2	—	2	2	—
8. Expansion of Management Development Centres ..	—	1	1	1	—
9. Strengthening of Industrial Relations Institutes	—	2	2	2	—
10. Setting up of Industrial Relations Institutes	2	—	2	3	50
11. Setting up of Institute of Labour Administration Training ..	1	—	1	2	100
12. Expansion of National Institute of Labour Administration Training	—	1	1	1	—
13. Documentary Films for Workers, Education	12	20	32	40	25
II. Labour Market Organisation					
14. Improvement of Employment Exchanges	—	21	21	21	—
15. Setting up of Vocational Guidance and Youth Employment Units	—	4	4	10	150

1	2	3	4	5	6
16 Opening of Employment Exchanges	21	—	21	33	57
17. Improvement of Vocational Guidance Units	—	—	—	4	—
18. Pilot Research Project for Rural Employment Promotion ..	—	2	1	2	100
19. Pilot Project on Foreign Employment Promotion	—	1	—	1	—
III. Industrial Relations					
20. Construction of Buildings for Labour Directorate Offices ..	—	6	6	5	—
21. Improvement of Regional and Divisional Office Buildings of Labour Directorate.. ..	—	—	—	5	—
IV. Provision of Safety and Security					
22. Setting up of Labour Welfare Centres	17	8	22	40	82
23. Improvement of Labour Welfare Centres	—	13	7	11	57
24. Mines Rescue Centres, ..	—	1	1	2	100
25. Institutes of Safety and Occupational Health	—	1	—	2	—
26. Seamen's Hostel	1	1	1	1	—
27. Training Centres for Mines Supervisory Staff and Technicians	—	—	—	2	—
V. Research, Analysis, Evaluation and Statistics					
28. Setting up of Institute of Manpower Studies	—	—	—	1	—
29. Setting up of Institute of Manpower Information programme.	—	—	—	1	—
30. Reorganisation of Research and Statistical Cells	—	—	—	2	—

TABLE II.

Benchmarks and Physical Targets for the Third and Fourth Five-year Plans in the Labour Policy and Services Sector.

East Pakistan

(In numbers)

Sub-sector	Bench-marks for the Third Plan (1964-65)	Target (addi-tional, for the Third Plan (1969-70)	Bench-mark (cumula-tive) for the Fourth Plan (1969-70)	Target (addi-tional) for the Fourth Plan (1970—75)	Percent increase over 1969-70
1	2	3	4	5	6
I. Training and Skill Development					
1. Setting up of Technical Training Centres	3	8	5	10	100
2. Expansion of Technical Training Centres	—	3	3	5	67
3. Technical Training Centre for Released Defence Personnel ..	—	1	—	1	—
4. Setting up of Apprenticeship Training Advisory Offices/ Instruction Centres	3	3	6	8	33
*5. Seamen's Training Centre ..	—	1	—	1	—
6. Management Development Centres/Sub-centres ..	1	—	1	2	100
7. Expansion of Management Development Centre ..	—	1	1	1	—
8. Strengthening of Industrial Relations Institute	—	1	1	1	—
9. Setting up of Industrial Relations Institutes	1	—	1	3	200
10. Setting up of Institute of Labour Administration Training.	—	—	—	2	—
11. Documentary Films for Workers' Education	12	20	32	20	—
II. Labour Market Organisation					
12. Improvement of Employment Exchanges	—	6	—	6	—
13. Opening of Employment Exchanges	6	—	6	13	117
14. Setting up of Vocational Guidance and Youth Employment Units	—	4	4	—	—
15. Improvement of Vocational Guidance and Youth Employment Units	—	—	—	4	—
16. Pilot Research Project for Rural Employment Promotion ..	—	1	—	1	—

1	2	3	4	5	6
III. Promotion of Industrial Peace					
17. Construction of Buildings for Labour Directorate Offices ..	—	6	6	5	—
18. Expansion and Improvement of Divisional Offices of Labour Directorate	—	—	—	4	—
19. Improvement of Regional Office Building of Labour Directorate.	—	—	—	1	—
IV. Provision of Safety and Security					
20. Setting up of Labour Welfare Centres	13	8	18	15	—
21. Improvement of Labour Welfare Centres	—	13	7	11	57
22. Institute of Safety and Occupational Health	—	—	—	1	—
*23. Seamen's Hostel	1	—	1	—	—
V. Research, analysis, evaluation and Statistics					
24. Reorganisation of Research and Statistical Cells	—	—	—	1	—

*Central programmes.

TABLE III

Benchmarks and Physical Targets for the Third and the Fourth Five Year Plans in the Labour Policy and Services Sector

West Pakistan

(In numbers)

Sub-sector	Bench-mark for the Third Plan (1964-65)	Target (addi-tional) for the Third Plan (1969-70)	Bench-mark (cumula-tive) for the Fourth Plan (1969-70)	Target (addi-tional) for the Fourth Plan (1970—75)	Percent increase over 1969-70
1	2	3	4	5	6
I. Training and Skill Development					
1. Setting up of Technical Training Centres	4	3	6	10	67
2. Expansion of Technical Training Centres	—	3	3	6	100
3. Technical Training Centre for Released Defence Personnel	—	1	—	1	—
4. Setting up of Apprenticeship Training Advisory Offices ..	35	—	4	6	50
5. Expansion of Apprenticeship Training Advisory Offices ..	—	—	—	4	—
*6. Seamen's Training Centre ..	—	1	—	1	—
7. Management Development Centre	1	—	1	—	—
8. Strengthening of Industrial Relations Institute	—	1	1	1	—
9. Setting up of Industrial Relations Institute	1	—	1	—	—
*10. Setting up of Institute of Labour Administration Training ..	1	—	1	—	—
*11. Expansion of National Institute of Labour Administration Training	—	1	1	1	—
12. Documentary Films for Workers' Education	—	—	—	20	—
II. Lnbour Market Organisation					
13. Improvement of Employment Exchanges	—	15	—	15	—
14. Pilot Research Project for Rural Employment Promotion	—	1	1	2	100
15. Opening of Employment Exchanges	15	—	15	20	33
16. Setting up of Vocational Guidance and Youth Employment Units.	—	—	—	10	—
*17. Pilot Project on Foreign Employment Promotion ..	—	1	—	1	—

1	2	3	4	5	6
III. Provision of Safety and Security					
18. Setting up of Labour Welfare Centres	4	—	4	25	525
19. Mines Rescue Centres ..	—	1	1	2	100
20. Institute of Safety and Occupational Health	—	1	—	1	—
*21. Seamen's Hostel	—	1	—	1	—
22. Training Centres for Mines Supervisory Staff and Technicians	—	—	—	2	—
V. Research, analysis, evaluation and Statistics					
*23. Setting up of Institute of Manpower Studies	—	—	—	1	—
*24. Setting up of Institute of Manpower Information Programme.	—	—	—	1	—
25. Reorganisation of Research and Statistical Cells	—	—	—	1	—

*Central programmes

TABLE IV

Financial allocations and expected implementation for the Third Plan period and allocations for the Fourth Five Year Plan in the Labour Policy and Services Sector.

Pakistan

(Million Rupees)

Sl. No.	Sub-sector	Allocation for the Third Plan	Expected Implementation in the Third Paln	Proposed Fourth Plan Allocation	Percentage Increase over the Third Plan Implementation
1.	Training and Skill Development ..	64.14	43.48	105	142
2.	Labour Market Organisation ..	6.10	0.58	9	1,454
3.	Industrial Relations	2.66	1.55	7	3 52
4.	Provision of Safety and Security ..	10.59	3.95	14	254
5.	Analysis, Evaluation and Statistics..	1.49	—	5	—
	Total ..	85.60	49.56	140	182

TABLE V

Financial allocations and expected implementation for the Third Plan period and allocations for the Fourth Five Year Plan in the Labour Policy and Services Sector.

East Pakistan

(Million Rupees)

Sl. No.	Sub-sector	Allocation for the Third Plan	Expected Implementation in the Third Plan	Proposed Fourth Plan Allocation	Percentage Increase over the Third Plan Implementation
1.	Training and Skill Development ..	36.96	19.50	57.5	195
2.	Labour Market Organisation ..	4.10	0.37	4.5	1,170
3.	Industrial Relations	1.66	1.55	3.5	126
4.	Provision of Safety and Security ..	6.54	2.18	7.0	221
5.	Analysis, Evaluation and Statistics ..	1.49	—	2.5	—
	Total ..	50.75	23.60	75.0	239

N.B. Includes Central programmes worth 5 million rupees.

TABLE VI

Financial allocations and expected implementation for the Third Plan period and allocations for the Fourth Five Year Plan in the Labour Policy and Services Sector.

West Pakistan

(Million Rupees)

Sl. No.	Sub-sector	Allocation for the Third Plan	Expected Implementation in the Third Plan	Proposed Fourth Plan Allocation	Percentage Increase over the Third Plan Implementation
1.	Training and Skill Development ..	27.80	23.98	47.5	98
2.	Labour Market Organisation ..	2.00	0.21	4.5	2,219
3.	Industrial Relations	1.00	—	3.5	—
4.	Provision of Safety and Security ..	4.05	1.77	7.0	295
5.	Analysis, Evaluation and Statistics..	—	—	2.5	—
	Total ..	34.85	25.96	65.0	150

N.B. Includes central programmes worth 5 million rupees.

CHAPTER 14
HEALTH

Economic development and social progress are closely linked with the health of a people. And the health of a community is dependent not only on the health services but also on its environment and food supply. The provision of good water supply through tap in the homes is the surest safeguard against dreadful communicable diseases like cholera, typhoid, infective hepatitis and dysentery. Large scale mortality and morbidity stem from diseases which are the results of defective sanitation. These diseases are best prevented by wide-spread provision of pure water supply and sanitary means of human waste disposal. Similarly, congestion and bad housing are the most important causes of the spread of tuberculosis, cerebro-spinal meningitis and other airborne respiratory diseases. In order to control them we need better housing and a healthier physical environment. Due to a close connection between health and nutrition, appropriate provisions have to be made in the Agricultural Programme for sufficient supply of appropriate foods to meet the health needs of the population. By ensuring the production and consumption of nutritious foods a healthy nation is created to contribute to the task of economic development.

2. It is easy to see why the battle against disease is important to the fulfilment of economic policy. Morbidity effects both attendance at work and the quantity and quality of work done. Premature death not only involves human tragedy but also a waste of social and economic investment. The provision of health services can make important contribution to economic growth.

3. Eversince the inception of the planning process in Pakistan, better health standards have been regarded on the one hand as essential for accelerating the pace of development and on the other as ultimate goals of the development effort. It is for this reason that increasing allocations were made for the Health Sector in successive plans. Allocations for health rose from Rs. 370 million in the Second Plan to Rs. 900 million in the Third Plan. With the evolution of planning techniques and methodology the range of subjects covered under the Health Sector has also broadened and now includes nutrition, eradication of communicable and epidemic diseases, better training facilities and improved diagnosis and treatment.

Performance during Third Plan

4. The Third Plan provided Rs. 901 million (Rs. 629 million for General Health and Rs. 272 million for Malaria Eradication Programme) for the general Health Sector (excluding family planning). Major sub-sectors for which this allocation was earmarked included malaria eradication programme, hospital beds, rural health centres, tuberculosis control and medical education and training. It is estimated that approximately 45% of this allocation will be utilized by the end of the Plan period (excluding Malaria Eradication Programme). Considerable shortfalls are expected in the physical targets envisaged for the Third Plan in the Health Sector. Position with regard to the targets and achievements of the Third Plan is summarised below:—

TABLE 1

Item	Plan Target	Achievement	Percentage In crease
Doctors	4,800	5,000	104
Nurses	1,800	1,660	98
Lady Health Visitors	1,700	950	56
Hospital beds	12,800	3,650	30
Rural Health Centres	547	230	34
Sanitary Inspectors	—	700	—
Para-medical	—	1,500	—

5. The most disappointing feature has been failure in the implemetation of the rural health programme. It was estimated that by the end of the Third Plan, 860 rural health centres and 2400 sub-centres would be functioning, but only 230 rural health centres have been commissioned and a few more are under construction. In East Pakistan , only the rural health centres carried over from the Second Plan could be completed and no new scheme was started. In West Pakistan, the rural health programme remains almost at a standstill. This statism resulted from delay in the allocation of funds and some controversy regarding the conceptual pattern of the rural health programme. Not much headway could be made under the programme for hospital beds. In the first place the figures given as benchmark for hospital beds in the Third Plan were inflated. Secondly, the beds to be provided under the rural health programme and medical colleges were also added to the overall target for hospital beds. Due to unsatisfactory progress of rural health programme and delay in the completion of medical colleges the target for hospital beds could not be reached. The number of beds likely to be added during the Plan period would be 3,650 against the Plan target of 12.800. Position with regard to tuberculosis control is also not encouraging. In East Pakistan, 22 T. B. clinics carried over from the Second Plan were completed, whereas in West Pakistan hardly 8 clinics out of the planned 45 are likely to be set up. Under medical education work continued on medical colleges at Sylhet and Mymensingh and work started at Barisal and Rangpur. Work on these colleges will have to be carried over into the Fourth Plan. Facilities for postgraduate medical education could not be augmented. Work on the School for Tropical Medicine at Dacca has just started while the postgraduate medical institute in East Pakistan has not been taken up so far.

Special Strategy

6. The strategy of the Fourth Plan seeks to strike a proper balance between curative and preventive services. Preventive services will continue to receive priority but relatively greater emaphasis will be attached to curative aspects compared with the Third Plan. The programmes for *preventive services spill over into other sectors, especially Works and Physical Planning and Housing programmes.* Thus, the emphasis on preventive aspects can only be gauged through a scrutiny of all programmes relating to health, whether included in the Health sector programmes or in that of other sectors.

7. In the context of our Plan projections, highest priority will have to be assigned to rural health services in view of the preponderance of the rural population in this country. The health requirements of our rural population are diverse and complicated. But the actual facilities available to them are almost negligible. Though our past two Plans contained substantial allocations for the rural health programme, the implementation in physical terms was not up to the mark. The result has been that the basic infrastructure which was to emerge as a net-work of rural health centres and sub-centres has not been provided. An attempt will be made during the Fourth Plan to make up for this deficiency.

8. Eradication of a number of diseases is dependent on the successful implementation of programmes which do not fall within the orbit of the Health Sector. These include sanitation, supply of pure water, sewage disposal, better housing and nutrition. There is need for very close intersectoral cooperation. The successful implementation of related programmes in the Physical Planning and Housing and Food and Agriculture Sectors is a pre-requisite for the success of programmes in the Health Sector.

9. An important factor which has impeded the smooth progress of health programmes is the acute shortage of trained personnel of all categories. Even

though attempts have been made in previous Plans to improve the situation in this regard, the problem still persists. The deficiencies are both quantitative and qualitative. The Fourth Plan, therefore, will attempt :

(*a*) to augment training facilities for doctors, nurses and para-medical personnel :

(*b*) to improve the quality of education ;

(*c*) to reorientate the education system to our development requirements.

10. Due to lack of basic amenities our population is highly susceptible to communicable diseases, epidemics and debilitative diseases which result from malnutrition. Programmes are already underway to eradicate some of the major diseases like malaria and smallpox. But the immunity achieved under these crash programmes cannot be maintained unless basic health services are made available at all levels. Essential health infrastructure has already been emphasised under the rural health programme. . Similarly, health units will have to be provided in urban areas to provide facilities for total health care. The stress in the Fourth Plan will, therefore, be on provision of health facilities at grass root level in order to provide facilities for the prevention of diseases like smallpox, cholera, dysentery.

11. Basic infrastructure to be made available in the form of rural health centres cannot be very effective unless it is supported by a superstructure in the form of referral hospitals at the periphery, say tehsil, sub-division and district levels. So the programmes for strengthening hospitals at the peripheral level will be assigned top priority.

Objectives

12. The objectives in the Health Sector of the Fourth Plan are as follows :—

(*i*) To improve the living and working environment of the population through better sanitation, water supply, disposal of sewerage, disposal of industrial wastes, control of insects and disease vectors, better housing facilities, the prevention of air and water pollution, and epidemiological services ;

(*ii*) To provide better nutrition and nutritional education ;

(*iii*) To develop and improve comprehensive health services through health centres and sub-centres and poly-clinics, for maternal and child health care, care of the sick, implementation of the family planning programme, immunisation of children and when necessary of adults also. M. C. H. service should contain a strong element of nutrition.

(*iv*) To provide special health care to infants, children, adolescents and mothers and the handicapped with particular attention to reducing infant and maternal mortality through comprehensive health care ;

(*v*) To stengthen measures for the control of gastro-intestinal diseases and tuberculosis and other communicable and mental diseases ;

(*iv*) To set up industrial health establishments to fight against the most prevalent diseases, to care for workers and their families and rehabilitate workers whose working capacity has been reduced by industrial diseases or accidents.

(*vii*) To provide sufficient number of referral hospitals with the facilities of specialists services to deal with seriously ill patients at the sub-division and district levels ;

(*viii*) To provide and ensure sufficient drugs for preventive health measures ;

(*ix*) To train doctors, teachers, specialists, para-medical personnel and auxiliary health workers; and

(*x*) To integrate services at all levels from district down to union level.

MAJOR PROGRAMMES AND TARGETS

Unipurpose Programmes

13. The following unipurpose programmes will be integrated during the Fourth Plan :

(*i*) Malaria eradication ;

(*ii*) Smallpox eradication ;

(*iii*) B.C.G. immunisation and tuberculosis control ;

(*iv*) Leprosy control ; and

(*v*) Maternity and child health services.

14. The malaria eradication programme, as being implemented now, does not include the urban areas. It has been found that during the recent years there has been considerable upsurge in the incidence of malaria in the urban areas as well as in the rural areas especially in West Pakistan. This alarming situation makes it necessary to evaluate the programme and have an eradication programme in the towns and cities as well.

15. The malaria eradication programme will be entering its terminal phase during the Fourth Plan. Similarly the smallpox eradication programme, now in the attack phase, consists of mass vaccination and revaccination and probably will come to its end phase by 1973. By that time the control will involve only vaccination of the new-born, immigrants and floating population. Similarly the B.C.G. immunization programme will be completed. These three programmes will enter simultaneously into the maintenance phase and a major part of the population can be protected by combining these services with the rural health service. This should result in financial economy without any loss in effectiveness.

Rural Health Services

16. The beginnings of comprehensive medicare can be achieved through integrated rural health services *i.e.* rural health centres, sub-centres linked with regional hospital for general support and reference of difficult and complicated cases. The health care should be comprehensive and the full range of preventive and curative services must be integrated with appropriate support from specialists, general practitioners and auxiliaries at the points where each can do the maximum good.

17. There has been so far, a tendency to have separate services for each type of disease or eradication programme. Serious thought should be given to possible ways of avoiding the duplication and waste implicit in the separate programmes of family planning, malaria and smallpox eradication, tuberculosis, leprosy and trachoma control. Integration should be brought about under a phased programme of all unipurpose health services. Family planning should also be integrated with rural health services in the same manner.

18. Comprehensive health care should be directed to the community and not the individual patient. The principal consumer unit of the services provided by the rural health centre or its sub-centers should henceforth be the family rather than the individual patient. The health unit staff must take responsibility for both healthy and sick members of the family. Similarly community participation is essential for proper utilization of the services provided by health centres, sub-centres. But health services must reach out centrifugally to the homes rather than patients coming centripetally to health centre. The construction of sub-centres will be done in co-ordination with rural development and social welfare departments to avoid duplication of construction.

19. To-day no organised health services are available for the vast majority of the country's rural population. Rural Health Service Programmes now being initiated contemplate the creation of a network of rural health/Sub-centres, in both wings of the country, each rural health sub-centre, for about 12,500 people, *i.e.*, to provide one such unit for each union council. It is here that the resources, personnel, equipment and supplies are to be mobilised to meet the need of the people. The functions that a rural health centre can and should perform include maternal care, child care, care of the adult, care of all illness and emergencies, care of the disabled and the handicapped and care of the mentally ill beside epidemiological investigation and control of communicable diseases and maintenance of all the eradication programmes, enviromental sanitation, motivation and implementation of the family planning programme, health education and collection of vital statistics and nutrition.

20. According to the Plan there should have been 860 rural health centres and 2,400 sub-centres by the end of the Third Plan. However, so far, about 230 rural health centres have been commissioned.

21. The ultimate aim will be to cover the whole country with rural health centres at the rate of one centre for 50,000 persons. On the basis of 1975 population this would require 3,050 primary centres and 9,150 sub-centres. The rural health service should be treated as a top priority programme. It may not be possible to cover the whole country during the Fourth Plan due to financial and administration reasons but it should be by the end of the Fifth Plan.

22. These sub-centres will be manned mostly by the para-medical personnel till such time that the doctors become available. Sub-centres will provide family planning services along with comprehensive health care. Construction of sub centre should be co-ordinated with family planning departments, rural development and other social serivces departments to avoid duplication at the union level.

23. Supervisory control of the sub-centres will be provided by doctors at the rural health centres. By 1975 we should be able to create a total of 1,150 centres and 3,320 sub-centres.

24. In the past Plans the stress has been mainly on individual public health problems as crash programmes. Not enough importance seems to have been given to the development of basic health services to take over and maintain the results achieved from these crash programmes. The malaria eradication and smallpox eradication programmes are planned to be completed by 1973 and 1974 respectively. If during the early years of the Fourth Five-Year Plan the basic health infrastructure is not developed at the union level, the whole investment will be a waste and similar eradication programmes will have to be repeated in future. All these schemes envisage that after completion of these eradication/crash programmes their maintenance will be handed over to a regular health service. Unfortunately there has been no plan to pass on the maintenance phase to regular

health services. Whatever be the reasons, there has been a deficiency in our overall planning in this respect.

25. For this reason, in the Fourth Plan we must ensure the coverage of the entire country with a network of health infrastructure to serve as a base for regular health services for the nation. The rural health programme is a UNICEF assisted one. Funds for this programme, especially for development of manpower for rural health services will be forthcoming from UNICEF in the Fourth Five-Year Plan but it will need coordinated planning with UNICEF/WHO/AID for its effectiveness and proper utilisation of funds.

Hospital Beds

26. As mentioned earlier the programme for increasing the number of hospital beds in the country did not come up to expectation during the Third Plan. In the first place the benchmark figure in this regard was exaggeratedly placed at 36,000 and then the number of additional beds during the Plan period was placed at 12,800. In this way the number of total beds in Pakistan by the end of the Third Plan would have been 48,800. But according to the figures presently available the number of hospital beds in the country is not going to exceed 40,000 by 1970. The bed-population ratio in Pakistan is worse than it was thought to be. A concerted effort will have to be made to increase the number of beds in the country during the Fourth Five-Year Plan to improve the bed-population ratio. The beds will have to be provided at all levels *i.e.*, tehsil, sub-division and district. Provision will also have to be made for the improvement of urban hospitals located in big citites. The need will be not only for increasing the actual number of hospital beds but also for improving the facilities for treatment and diagonsis. Specialists will have to be provided at all the referral hospitals. Regional public health and diagnostic laboratories should be set up at important places as referral laboratories.

27. It is intended to provide 25,300 additional hospital beds during the Fourth Five-Year Plan though the Health Advisory Plan recommended 40,000 beds. This will raise total number of beds in the country to 64,300. As a result of this bed population ratio in country would become 1:2350.

28. The major problem in implementing such a large programme will be the supply of nurses. At the moment there are only 5,400 and their number should be at least doubled because the existing nurse/bed ratio is well below international standards. However, as nurses require 4 years training it will be difficult to increase the supply by more than half. At present, the training institutions are training out less than 500 nurses a year, and training capacity will have to be greatly increased. We may also utilize the training facilities of nurses in the private sectors (voluntary hospital) even if necessary by providing assistance. At present we have only one nurse for every 4 doctors whereas in most developed countries there are two nurses for every doctor.

Urban Health Services

29. The urban population has more difficult health problems than the rest. Chronic diseases such as heart diseases and malignant metabolic diseases are more prevalent in the urban areas today. Specialist services will therefore, have to be arranged through the existing educational institutions by providing extra hospital beds in the large cities as well as at the district level. Special hospitals will have to be arranged for the Government servants, industrial workers and others in the urban areas during the Fourth Plan. Malnutrition, especially of young children is also a serious problem needing especial attention during Fourth Plan.

Medical Manpower

30. The smooth implementation of health programme has been hindered by the shortage of para-medical and auxiliary personnel. The success of our programmes will depend on an adequate supply of such people in future.

31. Our experience during the Third Plan has been that the construction of buildings is relatively easy, but the provision of qualified personnel is a much harder task. Health centre doctors require dedication and considerable courage to cope with rampant health problems in face of glaring deficiencies of staff and equipment and the unattractive service and living conditions in the rural areas. Serious consideration has to be given to the training of more para-medical and auxiliary personnel during the Fourth Plan. We need simultaneous development of all types of medical manpower.

32. Our health programme not only needs doctors but urgently requires large numbers of para-medical and auxiliary workers. On such workers depends the success of all programmes including, urban health services, family planning and industrial health. It is essential to recognise the basic substitutability of medical manpower categories. At present doctors spend much time doing tasks that can be better performed by less expensive persons. Many routine tasks can be performed best by some one who specialises in the appropriate skill.

33. A variety of trained manpower will be needed to provided comprehensive medical care. It will include general practitioners, various specialists, nurses, para-medical personnel, sanitary engineers, other technicians, social workers, dietitians and administrators. All these categories of staff may not be required during the Fourth Plan but on the basis of the proposed rural health services at union council level as indicated above, there would be total need for 61,000 para-medical personnel of all types for the programme.

34. Some of these are already available in the existing local health units and other will be available from the preventive crash programmes. As these programmes are pooled with the local health centres part of the needs will be met. However, a large number of auxiliary personnel will have to be trained in new training institutions. Every health worker should be trained in human nutrition.

35. At present, there is a great disparity between the capacity of training institutions for medical auxiliaries and the requirements for the new programmes. If 3,200 of each category of personnel were to be trained at present rates of out-turn, it would take 5 years to train the dispensers, 18 years to train the lady health visitors, 32 years for the medical assistants and 35 years for the sanitary inspectors. Thus the present training facilities need enormous expansion.

36. Because of the shortage of doctors and nurses and their reluctance to work in rural areas, it is necessary to assign a leading role in the rural health programme to medical auxiliaries, and their training must be given the highest priority in the Fourth Plan. To produce the required numbers of nurses, the training facilities available in the private sector should be utilized fully and where necessary it must be improved and augmented. Fortunately auxiliaries are much cheaper to train than doctors and their supply can be expanded more quickly since the training period is much shorter. Training facilities for para-medical and auxiliary personnel should be made available at the district level.

37. The table below gives rough estimates of the comparative cost of educating doctors and auxiliaries.

TABLE 2

Comparative Costs of Medical Education, 1966.

	Recurrent cost per year (Rs. 000)	Length of course (years)	Total Recurrent cost per person (Rs.)
Doctors	12.0	5	60,000
Nurses	4.7	3	14,100
Medical Assistants	1.0	2.5	2,500
Lady Health Visitors	1.0	2.5	2,500
Midwives	1.0	1	1,000
Sanitary Inspectors	1.0	1	1,000

Source : A study conducted in the Planning Commission.

38. It can be seen that 24 medical assistants or lady health visitors can be trained for the same cost as one doctor. The cost differential is even bigger when we remember that half our doctors emigrate on completing their training. Training auxiliaries rather than doctors means putting the emphasis on the quantity rather than quality of medical services. But in a country as poor as Pakistan, the first priority must be to eliminate the medically simple " diseases of poverty " from which most of our population suffers. And it is possible to do this at relatively low cost. For this reason, heavy expenditure on training of auxiliaries will be the most productive strategy possible.

39. The present pay and status offered to nurses who have to undergo 4 years training after matriculation is highly unsatisfactory. As a result of this and dropouts due to marriage, wastage in the nursing profession is extremely high. It will, therefore, be necessary to provide incentives for nursing through the provision of married quarters, grant of Class II status to graduate nurses in Government service, making the posts of nurses permanent and pensionable, revision of pay scales to make them uniform all over Pakistan, grant of Class I status to Matrons of the teaching hospitals and an increase in their salary and the introduction of the training of male nurses so that the shortage of female nurses could be compensated.

40. Similarly, to attract young educated persons to para-medical and auxiliary services, reasonable incentives are needed in the form of higher pay, better working conditions, openings for promotion and free accommodation in rural areas.

41. So far as doctors are concerned, the present annual production of about 1,000 doctors a year is likely to increase to 1,200 or 1,300 during the Fourth Plan as the new colleges which were set up during the third plan will come into full operation. These colleges can be improved and expanded so that the admission rate in each college can be substantially increased. Simultaneously the feasibility of setting up two new medical colleges in each wing during the Fifth Plan need be examined. No proposal is therefore made to provide additional medical colleges during the Fourth Plan. In the private sector the Aga Khan Medical Colleges at Karachi is likely to start functioning during the Fourth Plan.

42. An attempt will be made to complete medical colleges already under development. These will be improved to bring them up to international standards. The number of beds in the attached hospitals will be brought up to the standards laid down by the Pakistan Medical Council.

43. The Plan envsiages special treatment facilities at the sub-divisional/ district level. In order to meet the requirements of specilists and the large number of teachers for medical colleges, a postgraduate medical institution like Jinnah Postgraduate Medical Centre of Karachi and a college of nursing may be set up at Dacca during the Fourth Plan.

44. A study recently conducted by the Planning Commission revealed some problems of medical education and medical students. The present system of undergradute medical eduction produces hospital oriented doctors who are not suitable for rural and preventive work. We must produce rural and community oriented doctors to meet our special needs. There is the need to modify and improve our medical curriculum to produce doctors to meet our requirements. Certain fields of medical training need to be specifically emphasised even if it means reducing the time allotted to preclinical and clinical subjects. In this regarnd, the following points need attention :—

(*a*) Greater emphasis on preventive and social medicine in the training of filed students with special attention to family planning and nutrition ;

(*b*) Greater importance to paediatrics in the curriculum of medical college as 45 prer cent of the population of Pakistan is less than 15 years of age ;

(*c*) A revision of examination system so that greater emphasis is laid on testing the students' understanding and capability in paractical work rather than his memory ;

(*d*) A greater integration of basic medical subjects with practical subjects ;

(*e*) Establishment of a better student-teacher relationship and the introduction of teaching methods with a practical bias ; and

(*f*) A review of the current administrative arrangements in medical colleges and instiutions in order to accord greater financial and administrative powers to them.

45. As medical education is costly, immediate attention should be directed to attract doctors to remain within the country and to serve the population in the rural and urban areas. They should be given better service status and economic and social security (specially for female workers in the rural areas). Pakitani doctors are now serving in other developing countries under much more difficult conditions because they are attracted by higher salaries. If these were available at home, doctors would be more willing to serve in villages. Rural service should also be made attractive to doctors. Rural centres should be decent places for doctors to work in and should have the required number of supporting staff.

The following points need consideration to improve the position of medical personnel in the country :—

(*i*) Uniform pay scales for doctors all over the country ;

(*ii*) The grant of Junior Class I status in service to all doctors holding M.B.B.S. or B.D.S. Degree ;

(*iii*) Grant of an allowance of 50 per cent of the salary to doctors serving in rural areas ;

(*iv*) A non-practicing allowance of 40 per cent of pay to all doctors in non-practicing jobs ;

(*v*) Free accommodation to all medical personnel serving in rural areas ;

(*vi*) A transport/conveyance allowance to medical personnel in rural areas;

(*vii*) Compensation of doctors with Post-Graduate qualifications who do not hold higher appointments ;

(*viii*) Grant of risk allowance to doctors working on communicable diseases ;

(*ix*) Grant of permament status to all posts of medical profession in the Government service and autonomous bodies and the confirmation of incumbents ;

(*x*) Declaration of rural health service as a pre-condition for promotion and Post-graduate Training at home and abroad ;

(*xi*) Service of at least 3 years in rural areas for all medical officers ;

(*xii*) Uniformity of terms and conditions of service of doctors in teaching job and the scales for teachers as contained in the New Education Policy;

(*xiii*) Declaration of all teaching posts in the medical profession as non-practicing in a phased programme ;

(*xiv*) Regulation of private practice of doctors in non-teaching institutions; and

(*xv*) The fixation of retirement age of doctors at 60 years.

46. The wastage of lady doctors due to marriage and other social reasons is very high. It is estimated that lady doctors constitute less than 14 percent of doctors in the country while they meet the needs of almost all the women patients. Suitable measures are required to reduce the drop-out of female doctors.

Self-sufficiency in the Manufacture of Pharmaceutical and Biological Products

47. There is a growing demand in the country for the use of drugs, along-with improved vaccines and insecticides. Import of these items tends to tax foreign exchange resources unduly and to encourage differential treatment between higher and lower income groups. During the Fourth Plan, efforts will be made to become self-sufficient in essential items of drugs and biological products. The existing laboratories for biological production will need expansion and improvement to produce sufficient sera and vaccine.

Unani, Ayurvedic and Homoeopathic Systems of Medicine

48. To supplement the supply of medical facilities to our vast population, indigenous systems of medicine namely ; Unani and Ayurvedic as also the Homoeopathic systems have been accorded recognition by the Government. In the Fourth Plan, facilities will be provided for conducting research and experimentation in the indigenous and homoeopathic systems of medicine. The possibility of utilising the srervices of hakims as paramedical trainees and manning the health sub centres without doctors after appropriate training needs examination. Measures need also to be adopted to raise the level of knowledge and practice in the Homeopathic system of medicine and to regulate it as in the western countries. It may be useful if a team consisting of doctors of modern medicine and Homeopathy visits some Western countries to study the working of the system in those countries.

Administration

49. Experience during the Third Plan has shown that execution and implementation of a number of programmes in the development sector is delayed due to shortage of personnel in the administrative set-ups of the provinces as well as the Centre. For the effective implementation of development programmes, the health departments require reorganisation and strengthening. The huge health programme of the Fourth Plan will require not only doctors and administrators but also a sufficient number of public health engineers and economists in the health departments. Similarly, planning and development cells should be set up in the Health Division and in the provincial health departments.

50. Administrative improvements for the implementation of the health programme will have to be introduced not only at the Central and Provincial levels but also at regional and specifically at district levels. The nature of work and administrative responsibilities at each and every level should be clearly defined. Administrative changes are more necessary in East Pakistan where so far only 7 districts have been provincialised. For smoother and more harmonious functioning all the districts need to be provincialised immeidately and funds may be provided in the Plan for this purpose.

51. The control of water borne diseases depends very much on the public health engineering branch which is under the Basic Democracies Department to day. It has been recommended that, for a proper nd effective programme of pure water supply and waste disposal, public health engineers should come under the Department of Health as they were before. The municipal/district councils and local bodies should be directed to undertake health functions more effectively, not only for immunization purposes but also for setting up infectious diseases hospitals within their spheres.

Private Investment in the Health Sector

52. In the first three Plans certain broad and general indications were given regarding the extent of the private investment in the Health Sector. But due to lack of proper machinery it has not so far been possible to evluate the role of private sector in the expansion of health facilities. However it can be safely presumed that contribution of the privte sector in this regard is by no means unimportant.

53. During the Fourth Plan a more concerted effort will be made to involve the private sector in promoting health facilities. Encouragement will be extended to the organizations like A.P.W.A. and P.M.A. for greater participation in health programmes. Loans/grants will be offered to the private individuals who would undertake to cater to the medical requirements of the people, support will also be given to the existing private hospitals and to help establish new ones.

54. Some industrial and commercial enterprises have arrangements for medical treatment of their employees like the Tea Industrial Health Services. Other organizations of similar nature will be encouraged to provide comprehensive health services for their workers through Health Departments. Incentives and assistance will be provided to more organisations who desire to establish effective health services.

55. It is well known that normally doctors feel reluctant to go to the villages due to lack of facilities there. The possibility of building standard clinics with requisite equipment in the rural areas and then handing these over to privte dcotors

on hire/purchase basis will be explored. It is hoped that this measure will prove very effective in attracting the private doctors to rural areas and thus meet a long felt need.

Medical Research

56. Medical research is closely linked with medical education. The subject received little attention during the Third Plan period. During the Fourth Plan medical research in the basic and clinical subjects with special reference to the control of communicable diseases will be taken up. As this subject is linked with medical education, the existing facilities of the medical institutions (Medical Colleges, Postgraduate Institutions. and Health Laboratories) should be fully utilised for research studies. Because of limited funds the concentration should be on equipments and staff of the individual research programme. Construction of multi- or mono-discipline research institutes should be avoided during the Fourth Plan.

57. Within the framework of financial allocations and policy approaches of the Fourth Plan, serious consideration should be given to the following suggestions :—

1. The Agriculture Sector should acccord priority to the production of protein food especially animal food to meet the nutritional requirements of the people with special provision for children, mothers and other needy groups. Milk and milk products at subsidised rates should be made available particularly to school children through a school health service ;
2. The Ministry of Education should provide the cost of the school health service from its budgetary grants but the service should be run by the Health Deprtments.
3. Efforts should be made to complete the rural health service within the Fourth Plan period by the construction of 2,500 rural health centres to cover the whole country. The programme should be implemented as a crash programme by the provincial Governments through an Autonomous Board under the Provincial Health Secretary to be set up in each province. Recurring expenditure should be made available from the development funds.
4. A committee should be appointed by the Planning Commission to go into the setting up of petro-chemical industries for the basic manufacture of drugs and medicines in the country.
5. Industries should provide comphrehensive health service including family planning for their workers through the Health Departments.
6. Free service should only be provided to indigent population. Others should pay for the services rendered to them on a sliding scale.
7. To remove inter-wing and inter-regional disparity as fast as possible the regions which are underdeveloped should be given priority in the matter of development.
8. As far as is possible by internal adjustment, additional funds, should be diverted to the programmes of rural health, hospital beds and medical education and training.
9. To enable the Health Division to establish an Institute of Postgraduate Medicine and a college of nursing at Dacca, a sum of Rs. 80 million should be provided from the proposed total allocation.

Financial Requirements

58. In the Third Plan a total allocation of Rs. 901 million was made for the Health Programme in the public sector. Actual utilization against this allocation is estimated to be between Rs. 578 and Rs. 638 million. The expenditure by regions on the basis of the former figure is summarised below :—

(Million Rupees)

	East Pakistan		West Pakistan		Centre		All Pakistan		
	Allocation	Expenditure	Allocation	Expenditure	Allocation	Expenditure	Allocation	Expenditure	Percentage Utilization
Malaria Eradcation ..	150	153	120	124	2	2	272	79	102
General Health	288	143	250	94	92	62	629	299	48
	438	296	370	218	94	64	901	578	64

Health Advisory Panel recommended that 10% of the total outlay of the Plan to be allocated to the Health Sector. Accordingly the Panel recommended that at least Rs. 4,272 million should be allocated to meet the minimum requirements of the Health Sector during the Fourth Plan. However the allocation proposed for health during Fourth Plan is Rs. 2,420 million excluding a provision of Rs. 25 million for Azad Kashmir and tribal territories. The regional breakup is as follows :—

(Million Rupees)

East Pakistan	1,400
West Pakistan	900
Centre	120
Total ..	2,420
Special Areas :	
(*a*) Azad Karhmir	15
(*b*) Tribal territories	10
Grand Total ...	2,445

The break up of allocation by sub-sectors is as follows :—

	East Pakistan	West Pakistan	Centre	Total
1. Malaria Eradication	120	140	2	262
2. Rural Health Programme	400	300	—	700
3. Tuberculosis Control	20	25	6	51
4. Communicable disease control *i.e.* smallpox, leprosy eradication and other communicable disease, nutrition, M.C.H., Vital Statistics Integration of vertical programmes ..	100	65	3	168
5. Hospital Beds	440	225	49	714
6. Medical Education and Training	275	110	52*	437
7. Health and Medical Research and others ..	—	—	8	8
8. Loan/Grant/Assistance to the private sector ..	45	35	—	80
9. Azad Kashmir and Northern Region ..	—	—	15	15
10. Centrally Administered Tribal Territories ..	—	—	10	10
	1 400	900	145	2,445

Notes: 1. Construction of one R.H.C. will cost about Rs. 7 lacs.
2. Construction of one Hospital Bed will cost approximately Rs. 25 thousand.
*3. Rs. 50 Million for Institute of Postgraduate Medicine and College of Nursing at Dacca

The regional breakup of Central allocation is as follows :—

1. East Pakistan	Rs. 90 million
2. West Pakistan	Rs. 30 million
3. A. K- and Northern Region	Rs. 15 million
4. Centrally Administered Tribal Territories	Rs. 10 milloin

The above allocations are likely to yield the following physical results :—

Physical Targets for the Fourth Plan.

	East Pakistan		West Pakistan		Centre		Total
	1970	1975	1970	1975	1970	1975	1975
I. Medical Manpower							
1. Doctors	8,052	10,177	13,400	16,150	—	—	26,327
2. Nurses	700	5,000	4,700	8,340	—	500	13,840
3. Lady Health Visitors ..	262	2,540	1,881	2,781	—	—	5,321
4. Midwives	—	2,540	1,790	2,024	—	—	4,564

5. Sanitary Inspectors ..	928	2,540	1,200	2,024	—	—	4,564
6. Compounder/Health Technicians/Pharmacists ..	2,162	2,540	—	2,024	—	—	4,564
7. Health Assistants / Other Paramedicals	—	2,540	—	2,024	—	—	4,564
8. Lab. Technicians ..	—	536	—	500	—	—	1,036
II. Other Targets:							
9. General Beds	9,723	25,000	25,100	37,000	1,200	2,300	64,300
10. T. B. Beds	—	—	3,000	4,700	—	200	1,166
11. R. H. Centres	147	600	83	550	—	—	1,150
12. R. H. Sub-Centres ..	150	1,670	250	1,650	—	—	3,320
13. Medical Colleges ..	7	8	6	6 + 1*	—	—	15
14. Institutes of Post-graduate Medicine	—	—	—	—	1	1	2
15. Institutes of Hygien and Preventive Medicine ..	—	—	1	1	—	—	—
16. School of Tropical Medicine	—	—	—	—	—	1	1
17. Nurses Training Institutes	5	9	21	25	1	1	35
18. L.H.V. Training Schools ..	3	5	5	5	—	—	10
19. Midwives Training Schools	—	—	36	41	—	—	—
20. Paramedical Instt. ..	1	8	4	8	—	—	16
21. T.B. Training Institute ..	1	—	—	—	—	—	1

Notes:—(*i*) All figures reflect progressive totals.

(*ii*) Admission in existing institutions can be enhanced by improvement and addition.

* Agha Khan Medical College, Karachi.

Annexure-A.

By the end of 1975 the population will be 151.5 million

(a) East Pakistan ... ... 83.4 million.

(b) West Pakistan ... ... 68.1 million.

No. of Primary Rural Health Centre and Sub-centre required to meet the need	East Pakistan	West Pakistan	Total
1. Number of Primary Health Centre (1 for 50,000 population)	1,668	1,382	3,050
2. Number of Sub-Centres (3 for 1 Primary Rural Health Centre)	5,004	4,146	9,150

Annexure B

MANPOWER REQUIREMENTS FOR RURAL HEALTH CENTRES/ SUB-CENTRES

Sl. No.	Designation	East Pakistan					West Pakistan			
		No. of Staff for R.H.C.	No. of Post for Sub-Centre	Total Staff for R.H.C.	Total Staff for 3 Sub-Centres	Total	For R.H.C.	Staff for 3 Sub-Centres	Total	National Grand Total
1.	Doctor	2	—	3,336	—	—	2,764	—	—	6,100
2.	L.H.V.	1	1	1,668	5,004	6,672	1,382	4,152	5,534	12,206
3.	Sanitary Inspector	1	1	1,668	5,004	6,672	1,382	4,152	5,534	12,206
4.	Lab. Technician	1	—	1,668	—	1,668	1,382	—	1,382	3,050
5.	Midwife	1	1	1,668	5,004	6,672	1,382	4,152	5,534	12,206
6.	Health Assistant	1	1	1,668	5,004	6,672	1,382	4,152	5,534	12,206
7.	Compounder/ H. Tech.	1	1	1,668	5,004	6,672	1,382	4,152	5,534	12,206
8.	Dresser	1	—	1,668	—	1,668	1,382	—	1,382	3,050
9.	Driver	1	—	1,668	—	1,668	1,382	—	1,382	3,050
10.	Clerk	1	—	1,668	—	1,668	1,382	—	1,382	3,050
11.	Fitter Mistry	1	—	1,668	—	1,668	1,382	—	1,382	3,050
12.	Peon	1	—	1,668	—	1,668	1,382	—	1,382	3,050
13.	Chowkidar/ Sweeper	1	1	1,668	5,004	6,672	1,382	4,152	5,534	12,206
										91,536

Annexure C

MALARIA ERADICATION PROGRAMME RELEASING PERSONNEL DURING FOURTH PLAN

	East Pakistan	West Pakistan	Total
1. Technicians	9,230	5,359	14,589
2. Non-Technicians	1,340	1,128	2,468
	10,570	6,487	17,057

TABLE I

BENCHMARKS AND PHYSICAL TARGETS FOR THE THIRD AND FOURTH FIVE YEAR PLANS IN THE HEALTH SECTOR

Pakistan

Item	Bench-mark for 3rd Plan 1964-65	Target for 3rd Plan 1969-70	Bench-mark for the 4th Plan 1969-70	Target for the 4th Plan 1974-75	Per cent-age increase over 1969-70
1	2	3	4	5	6
1. Doctors	15,600	19,800	21,452	26,327	23
2. Medical Colleges — ..	12	14	13	15	15
3. Nurses	3,600	5,400	5,400	13,840	90
4. Nurses Training Centres ..	18	24	27	35	30
5. Hospital Beds	35,500	48,300	39,023	64,300	62
6. (a) R.H.C. (Primary)	119	860	255	1,150	300
(b) R.H. Sub-Centres	225	—	400	3,320	700
7. Lady Health Visitors	1,047	2,750	2,143	5,321	83
8. Tuberculosis Clinics — ..	96	181	139	246	78
9. Tuberculosis Beds — ..	2,500	3,450	—	—	—

TABLE II

BENCHMARKS AND PHYSICAL TARGETS FOR THE THIRD AND FOURTH FIVE YEAR PLANS IN THE HEALTH SECTOR

East Pakistan

Item	Bench-mark for 3rd Plan 1964-65	Target for 3rd Plan 1969-70	Bench-mark for the 4th Plan 1969-70	Target for the 4th Plan 1974-75	Percent-age increase over 1969-70
1	2	3	4	5	6
1. Doctors	6,700	8,100	8,052	10,505	24
2. Medical Colleges	6	9	7	8	14
3. Nurses	475	1,000	700	5,000	86
4. Nursing T. Centres	3	9	5	9	80
5. Hospital Beds	7,600	14,700	9,723	25,000	140
6. (*a*) R.H.C. (Primary)	40	260	147	600	236
(*b*) R.H. Sub-Centres	—	780	150	1,670	1,009
7. Lady Health Visitors	100	850	262	2,540	336
8. Tuberculosis Beds	920	1,206	1,200	—	—

TABLE III

BENCHMARKS AND PHYSICAL TARGETS FOR THE THIRD AND FOURTH FIVE YEAR PLANS IN THE HEALTH SECTOR

West Pakistan

Item	Bench-mark for 3rd Plan 1964-65	Target for 3rd Plan 1969-70	Bench-mark for the 4th Plan 1969-70	Target for the 4th Plan 1974-75	Percent-age increase over 1969-70
1	2	3	4	5	6
1. Doctors	9,725	13,100	13,400	16,150	21
2. Medical Colleges	6	6	6	7	16
3. Nurses	3,292	4,400	4,700	8,340	56
4. Nurses Training Centres ..	21	—	21	25	20
5. Hospital Beds	25,600	33,000	29,300	37,000	28
6. (*a*) R.H.C. (Primary)	79	400	83	550	330
(*b*) Sub-Centres	225	—	250	1,650	540
7. Lady Helth Visitors	1,006	1,900	1,881	2,781	45
8. Tuberculosis Clinics	87	127	95	195	107
9. Tuberculosis Beds	2,400	—	3,000	4,700	57

TABLE IV

FINANCIAL ALLOCATIONS AND EXPECTED IMPLEMENTATION OF THE THIRD PLAN PERIOD AND ALLOCATION FOR THE FOURTH FIVE YEAR PLAN IN THE HEALTH SECTOR

Pakistan

(Million Rupees)

Item	Allocation for Third Plan	Expected Implementation in the Third Plan	Proposed Fourth Plan Allocation	Percentage Increase over Third Plan Implementation
1. Malaria Eradication	272	279	262	—4.5
2. General Health	629	299	2,183	697
Total ..	901	578*	2,445	345

*According to the latest information the expediture during the Third Plan is about Rs. 638 million.

TABLE V

FINANCIAL ALLOCATIONS AND EXPECTED IMPLEMENTATION OF THE THIRD PLAN PERIOD AND ALLOCATIONS FOR THE FOURTH FIVE YEAR PLAN IN THE HEALTH SECTOR

East Pakistan

(Million Rupees)

Item	Allocation for Third Plan	Expected Implementation in the Third Plan	Proposed Fourth Plan Allocation	Percentage increase over Third Plan Implementation
1. Marlaria Eradication	150	153	120	—22
2. General Health	288	143	1,280	788
Total ..	438	296	1,400	373

TABLE VI

FINANCIAL ALLOCATIONS AND EXPECTED IMPLEMENTATION OF THE THIRD PLAN PERIOD AND ALLOCATIONS FOR THE FOURTH FIVE YEAR PLAN IN THE HEALTH SECTOR

West Pakistan

(Million Rupees)

Item	Allocation for Third Plan	*Expected* Implementation in the Third Plan	Proposed Fourth Plann Allocation	Percentage increase over Third Plan Implementation
1. Malaria Eradication	119	124	140	30
2. General Health	250	94	760	765
Total ..	369	218	900	350

CHAPTER 15

POPULATION AND FAMILY PLANNING

Like other less-developed countries in the world, Pakistan is also faced with the problem of population pressures diluting economic development. While on the one hand we are committed to a higher standard of living for the people and providing them with adequate food, proper health facilities, education and employment, on the other all gains being made in these fields are swallowed by the rapidly growing population. According to the 1951 Census of Population, which was held 4 years after Independence, the population of Pakistan was 75.7 million. By 1961, it had reached a level of 93.7 million. According to various projections prepared by demographers, the population of Pakistan in recent years has been growing at around 3 per cent per annum at which rate, it will double itself in 23 years. This demonstrates the enormity of population problem facing Pakistan.

2. A rapidly growing population is the result of a high fertility and a low or declining mortality rate. Since death rates respond to economic development much more rapidly than birth rates, the early gains in health ensuing from economic development accentuate the population problem. Apart from creating an overall burden on the economy, a population with high fertility and declining mortality gives rise to very high proportions of population in the lower age groups. In case of Pakistan about 48 per cent of the population is estimated to be under 15 years of age. This population is totally dependent upon rest of the population without being productive thus placing a very heavy burden of dependency on the working population besides creating the urgency of providing basic educational, nutritional and health facilities. Another factor which clouds the population picture in Pakistan is that almost 90 per cent of the female population keeps out of the labour force due to sociological and cultural reasons. In other words, about 36 per cent of the population of Pakistan bears the burden of the entire population.

3. This burden in conditions of un-controlled population growth, tends to mount further. At the rates of population growth estimated to be prevailing in Pakistan during the last one decade, every year about 4 million persons are added to the population. In addition to food, clothing, shelter, sanitation, drinking water, health facilities required immediately after birth, this population needs schooling in five years time and gainful employment in another 15 years. It is estimated that during the Fourth Plan period 6.5 million persons will be added to the labour force. Three million children of primary school age will need schooling and the entire additional population of about 20 million will be requiring medical facilities. During the same period, the addition in urban population is expected to be around 6.5 million persons who would require at least 1.3 million additional housing units. In addition to this, an expansion will be required in roads, railways, transportation and other social services. The provision of these services puts a heavy burden on an economy in which 75 per cent of the total number of households receive an income of less than Rs. 200 per month, daily calorie intake is only around 2,100 per person, hardly 20 million persons can read or write, there is only one doctor for 6,000 persons, one hospital bed for about 3,000 persons one nurse for 1,500 persons besides about 1.2 million urban families without decent shelter.

4. In overall terms, in order to achieve a rise in the standards of living, the economy will have to maintain a growth rate in GNP higher than the population growth. Every addition to GNP is partly swallowed by additions in

population. In case of Pakistan, during the decade of 1960-70, the economy has grown at a rate of around 6 per cent while the population has risen by about 3 per cent a year meaning that half the growth in GNP was used by the additional population only to achieve the levels already existing in the country. This situation heavily dilutes the development effort in the country and contributes towards the persistence of hunger, disease and misery existing in less developing parts.

5. The Government of Pakistan had realised the importance of controlling population growth as far back as the beginning of the Second Five-Year Plan. However, due to a host of problems including the sociological and cultural barriers to modern practices of birth control, a vigorous family planning programme could not be launched till the beginning of the Third Five-Year Plan.

The Family Planning Programme

6. The Family Planning Programme, started on a large scale only in 1965, has already had substantial impact. It is the only sector of the Third Plan in which the financial target was exceeded. Against the allocation of Rs. 274 million the actual expenditure amounted to Rs. 365 million. The original target was a reduction in the birth rate from 50 to 40 per thousand between 1965 and 1970. It is universally recognised that the programme has made a definite impact on birth rate during the Third Plan bringing it down at least to 45 per thousand. The Fourth Plan aims at intensifying the efforts and bring down the birth rate further from 45 per thousand to at least 40 per thousand.

7. Since the scheme was established as a crash programme it had to train and recruit personnel in a hurry. The full time staff—most of which is paramedical consists basically of 1,392 Family Planning Officers and 1,200 Lady Family Planning Visitors and 1,209 Family Planning Assistants who are entrusted with clerical work. There are only about 40 full-time doctors, but about 1,000 doctors work on a part-time basis to carry out sterilizations. The programme also includes the part-time services of 25,000 dais (traditional midwives) who get 15 rupees a month plus referral fees for clients they bring in. The weakest aspect of the effort so far has been the use of dais. In a 1965 survey in Hyderabad it was found that only 9 per cent were literate, and their knowledge of contraceptive techniques was primitive. Their induction into the scheme served largely a defensive purpose in that it disarmed a pressure group which might otherwise have strongly opposed family planning.

8. The programme for the Fourth Plan envisages about double the expenditure during the Third Plan. The increase is modest considering that Rs. 520 million are required to merely maintain the programme at the 1969-70 rate. As the target for births prevented has been raised from 3 million in the Third Plan to 9.6 million in the Fourth, the unit cost of contraception in expected to decline substantially. This will be a difficult task, particularly as the first converts to family planning were generally those who were already willing or easily persuaded.

9. The major change which is envisaged is the gradual replacement of dais by a new category of full-time Family Planning workers who will receive the minimum wage of 115 rupees a month. By 1975, there should be 17,298 Family Planning Workers, *i.e.* one for each union council. It is also proposed to increase the number of lady Family Planning Visitors from 1,200 to 2,883. Because of the increase in field staff there will be new capital costs in creating rural clinics with residential accommodation for the staff. In all cases where

multipurpose rural health centres are available, the Family Planning Workers will be inducted into these rather than setting up separate family planning clinics. Service fees to doctors will also increase because of a trebling in the expected number of sterilizations, but the unit fee for sterilization will be reduced. The number of referral and post-partum clinics will be increased. It is proposed to place two Family Planning workers in each council. The female workers must be fully trained as Lady Health Visitors (28 month training). The training may be imparted along with Lady Health Visitors of Health Sector.

10. When the Third Plan was formulated the major stress was put on the I.U.D. (intra uterine device) as a contraceptive technique. This is the cheapest form of contraception and can be inserted by paramedical personnel. Although the I.U.D. programme has worked more or less as planned it has revealed serious limitations. I.U.D. insertion has caused discomfort and bleeding for a significant portion of users, and half the I.U.Ds. inserted are either removed or expelled within six months. This method therefore requires more follow-up, and has less ultimate scope than was originally envisaged. On the other hand, sterlization (of men) has proved unexpectedly popular in East Pakistan. Only 90,000 sterilizations were expected but 1.3 million were carried out during the Third Plan. For this reason sterilization has been given major emphasis in the Fourth Plan. Its acceptability should be even greater once techniques are devised for reversible sterilization. The Fourth Plan will also provide hormoral pills on a large scale for the first time. This form of contraception is the most expensive but it is the method preferred by about 80 per cent of women willing to use contraceptives (according to a recent National Impact Survey). However, most of the cost of these pills will be recovered by sale at commercial rates. It is proposal to include oral contraception in the programme but the need to adopt precautionary measures ensuring that the 'orals' were not dispensed to such clients for whom they were not medically indicated needs to be stressed. The oral pills may to be served on medical prescription only.

11. Table 2 indicates the major types of contraceptive devices to be used in the programme and indicates their likely efficiency and cost. Unfortunately no accurate measure is available to split overhead costs (which represent persuasion and follow-up) between the different forms of contraception, so they have simply been allocated *pro rata* birth prevented. It can be seen that the cheapest method is the I.U.D., followed by conventional contraceptives (condoms and various types of foam). Sterilisation appears somewhat expensive, but it is the cheapest in the long run as it is permanentand will also reduce births after 1975. At present, pills are expensive, but this is an area in which contracentive technology is advancing fast, and in the long run, costs will fall. The programme will, of course remain flexible and will also take advantage of any of the new technical break throughs which may occur during the next five years. The most promising of these is likely to be contraception by inocluation.

12. Hitherto, considerable stress has been laid on incentive payments to propagandists for birth control, and token referral fees have been paid to people bringing in clients for I.U.D. and sterilization. In view of the increase in full-time field staff, these referral will be gradually phased out. The existing system of fees incentives tended to act as an inducement for mis-reporting. It was agreed that it was not possible to stop these payments altogether but modification were possible ensuring better checks against fraudulent reporting. It was noted that the organisation is conscious of this problem and is experimenting on safer systems.

13. By 1970 it is estimated 18 per cent, of married couples will be effectively practising contraception, and by 1975 it is expected that this will rise to 34 per cent.

14. The Third Five-Year Plan made an allocation of Rs. 274 million for the Family Planning Programme, which has been completely utilised. In addition, expenditure was incured from sources outside the Plan bringing the total expenditure in this sector to Rs. 356.15 million. During the Fourth Plan, an allocation of Rs. 695 million has been made which is 150 per cent higher than the Third Plan allocation. A break down by programmes is given in Table IV.

15. The distribution of resources to provinces or regions should fully take into account of relative gravity of the population situation in different parts of the country. Areas where the population pressure on land and other economic resources was severer should receive a larger share of resources than areas where such pressure was not as acute. Social acceptance of family planning should be taken into consideration as a criterion for allocating resources.

16. The need also exist for improvements in service statistics, reporting procedures and system of data analysis with a view to making a better evaluation of the effort, its cost and benefits to the country.

17. Health Services and Family Planning Services are to be integrated in the periphery. In the Sub-centre at Union Council level service are to be provided from one establishment. Particular hours of the day may be fixed for the Famil Planning work exclusively, in the sub-centre. The details working programme may be worked out jointly by Health and Family Planning authorities by mutual understanding. Similarly the construction of the working place in the union council level/sub-centre can be worked out in consultation with Health and Rural Development Department. Close co-ordination may be developed for Family Planning work in the community development projects.

18. Industries may be directed to provide Family Planning services along with normal health services.

TABLE I

Benchmarks and Physical Targets for the Third and the Fourth Plans in Family Planning Sector

PAKISTAN

Sl. No.	Description	Target for the Third Plan (1969-70)	Bench mark for the Fourth Plan (1969-70)	Target for the Fourth Plan (1974-75)	Per cent increase over (1969-70)	Remarks
1	2	3	4	5	6	7
1.	Number of Births to be prevented	5.0	3.3 Million	9.6 Million	199.09	
2.	Contraceptives :					
	(*a*) IUD	3.0 Million	3.3 Million	3.6 Million	9.9	
	(*b*) Sterilization	0.09 ,,	1.3 ,,	4.5 ,,	246.3	
	(*c*) Units of Conventional Contraceptives ..	1,152.5 ,,	664.4 ,,	1,000.0 ,,	50.4	
	(*d*) Cycles of Oral Contraceptives	—	—	39.00 ,,	—	Introduced in the 4th Plan.
3.	Clinics :					
	(*a*) Referral Clinics (Urban Clinic)	37	37	54	45.9	The existing full time urban clinic have been re-designated as referral clinics.
	(*b*) Rural Family Planning Clinics (Full/part time)	718	458 (Full time) 506 (Part time)	1,230	26.18	
	(*c*) Post Partum Clinics	—	—	40	—	

N. B.—Per cent increase has been calculated on Column 5.

TABLE II

Benchmarks and Physical Targets for the Third and the Fourth Plans in Family Planning Sector

EAST PAKISTAN

1	2	3	4	5	6	7
	Number of births to be prevented					
1.	Contraceptives :					
	(*a*) Number of IUDs	1.5 million	1.5 million	1.8 million	20	
	(*b*) Number of Sterilizations	0.045 ,,	1.2 ,,	3.3 ,,	175	
	(*c*) Units of Conventional Contraceptives ..	586.25 ,,	283.3 ,,	500.00 ,,	76.49	
	(*d*) Number of Cycles of Oral Contraceptives ..	—	—	18.50 ,,		
2.	Clinics :					
	(*a*) No. of Referral Clinics	16	16	18	12.5	
	(*b*) No. of Rural Family Planning Clinics (Full/ Part Time)	400	244 (Full time) 333 (Part time)	687	190.05	
	(*c*) Postpartum Clinics	—	—	20	—	

TABLE III

Benchmarks and Physical Targets for the Third and the Fourth Plans in Family Planning Sector

WEST PAKISTAN

1	2	3	4	5	6	7	8
1.	Contraceptives :						
	(*a*) Number of IUDs	N.A.	1.5 Million	1.8 Million	1.8 Million		
	(*b*) Number of Sterilizations	,,	0.045 ,,	0.1 ,,	1.2 ,,	1100	
	(*c*) Units of Conventional Contraceptives ..	,,	586 ,,	381 ,,	500.00 ,,	31.19	
	(*d*) Number of Cycles of Oral Contraceptives ..	,,	—	—	18.50 ,,		
2.	Clinics :						
	(*a*) Referal Clinics (Urban Clinics)	,,	21	21	36	71.4	
	(*b*) Rural Family Planning Clinics (Full/Part time)	,,	318	224 (Full time) 173 (Part time)	543	36.70	
	(*c*) Post Partum Clinics	,,	—	—	20	—	

TABLE IV

Financial Allocations and estimated expenditure during the Third Plan and Allocations for the Fourth Plan

(Rs. Million)

Agency	Third Plan Allocations (1965—70)	Estimated Expenditure (1965—70)	Fourth Plan Allocation (1970—75)	Percentage increase in the Fourth Plan overthe Third Plan Expenditure
1	2	3	4	5
East Pakistan	124.00	124.00	450.00	237.5
West Pakistan	139.00	139.00	150.00	33
Centre	11.00	11.00	20.00	131.5
PAKISTAN	274.00*	274.00*	620	122

* Excludes about Rs. 82.15 million of foreign assistance utilized during the Third Plan period after full utilization of Plan allocations.

CHAPTER 16

SOCIAL WELFARE

From its very inception Pakistan has professed to embrace the concepts of economic development and social welfare. The fruits of Independence were immediately seen as the opportunity of freedom from want and poverty and the freedom to fashion life according to one's own beliefs and values. These principles were variously described but always stressed human brotherhood, social justice and self-help. The realities of Pakistan's situation as well as the dictates of religion seemed to point in the same direction. But the gulf between the profession of religious principles and the social practices of the society deprived the country of any real advantages in the pursuit of social werlfare objectives. At best it lent the backing of religion to the adoption of a welfare state as a constitutional obligation.

2. The concept of social welfare is germane to all religions and colours every aspect of the ideal human society to which Islam points. Islamic ethics not merely inculcate the attitude of self-sacrifice and social cooperation but also promote virtues in the individual which make it possible for him to subordinate his own interest to the collective good of the community and thus make the attitude operative. Knowledge, purity, discipline and self-control—as attributes of the individual, make it possible for him to master gread, jealousy, cruelty, injustice and lust and to fulfil his obligations to fellow members of the human society. The ethical code so prescribes the obligations towards members of one's family, one's neighbours, one's colleagues in trade or profession, the incapacitated and the generally needy from orphans and widows down to the needy traveller or stranger that every section of society is assured of its welfare on the basis of self-help and cooperation. Nor is the collective or state effort neglected. As the concept of individual virtue and social attitudes provides the basis of self-help, so do the concepts of the obligatory tax for relief and rehabilitation and the community chest, which act as instruments of state action for social welfare. Above all, in Islam the concept of social welfare is not opposed to the attitude of economic development. It is squarely contributory to it. Islam exhorts every citizen to acquire knowledge, enlightenment and skills, to develop himslef fully and to work hard and produce to the best of his capacity and contribute his share to the development of his family, community and nation. Thus, planning for social werlfare should be based on the Islamic concept of human brotherhood, service to fellow-beings, obligations to society, self-help and collective action for the common good.

3. Social Welfare is a vital sector of national development, particularly because it motivates private effort on the basis of ' self-help ' and mobilises people's participation with Government agenices in the development effort. The programme of social welfare in Pakistan must, therefore, adopt the two-fold approach of public and private effort. The dilemma of social welfare is that it is most needed in poor communities where the financial and technical resources are least available. Inevitably, the policy has been that responsibilities towards the organization and provision of social welfare services should be shared between the Government and voluntary welfare agenices of the people.

4. The three Development Plans progressively listed social ills, devised preventive, curative and rehabilitative measures and formulated programmes of action directed not only towards meeting social needs, mitigating suffering, restricting and ultimatly eradicating traditional social ills but also towards many problems of readjustment to social, cultural and psychological changes brought by rapid economic development.

5. Some idea of the distance between what was practical and what was needed can be had from the fact that even in the latest of these Plans, the estimated number of physical units of various sizes necessary to meet all social needs and problems was 40,000 and the Plan could provide for no more than 1,538. Even after all possible support was lent to private effort, the gap would remain enormous.

Performance under the Third Plan

6. Of the financial allocation of Rs. 90 million, not more than Rs. 52 million are expected to be utilised during the Third Plan period. In a small programme this is a big shortfall. Nevertheless, some real advances were made. The programme of community development in urban and ruarl areas, financial and professional assistance to voluntary agenices and staff welfare services, was fully implemented. 163 projects were established covering all cities and 30 ruarl areas under the community development programeme. The number of voluntary agencies functioning in the country and receiving financial assistance and professional consultation has risen to 4,000. The shortfalls were mainly in the curative and rehabilitative programmes for specialised groups. The programmes of social assistance and recreational services for the masses did not get off the grountd at all.

Strategy and Policy of the Fourth Plan

7. (i) Social Welfare in Pakistan is recognised as a collaborative effort of the Government and the people to promote the well-being of the masses ; to identify social needs and problems; to mobilise financial resources, to enable the common man to derive greater satisfaction of his material and social needs and to help the under-privileged and handicapped sections of the community to live a better and more useful life.

(ii) Adequate finances for Social Welfare Programmes to tackle the entire needs and problems of the country will probably not be available for a considerable time. The whole concept of social welfare services, therefore, should be of the nature of self-help. It means that maximum possible participation of the people and their agencies should be obtained by relevant government agencies to identify problems and needs, formulate feasible plans and programmes, fix priorities and targets, mobilise resources and evaluate programmes. Government will concentrate their effort on motivational and promotional programmes *i.e.* programmes directed to motivate individuals, families and communities to undertake their own responsibilities for meeting their social needs and resolving problems. Measures under the curative and rehabilitative programmes in the government sector will be directed towards field projects of demonstration, experimentation and training to serve as models for the private effort for the organisation of standardised social services for specialised groups.

(iii) Attempts will be made to strengthen and standardise existing social welfare services and develop new ones to offset the complex social repercussions of economic development and to resolve problems created by social change.

(iv) Social services for children and women will be organised and institutions established for their welfare and rehabilitation.

(v) Specific programmes concerned with rural development and welfare will be formulated for implementation in collaboration with other social sectors like health, housing, education and private agencies.

(vi) Specific programmes concerned with youth development and welfare as well as gainful utilisation of youth power, eradication of beggary, training and rehabilitation of the handicapped especially the orphans, the blind and ex-servicemen along with the multiple administrative and legislative implicatons involved

therein, will be undertaken by the Government. Besides, social security will be provided to the needy and the handicapped through a social assistance programme to be organised and pursued jointly by the Auqaf Department and Provincial Directorates of Social Welfare. Attempts will also be made to provide group insurance and health insurance facilities in collaboration with and through Insurance Companies working in the field.

(vii) Voluntary welfare agencies and local bodies will be given professional assistance and financial grants to enable them to provide better services for special groups of people and to expand their recreational, educational and health services.

(viii) Local governments and municipalities shall be asked to provide urgently needed community facilities like construction and maintenance of public urinals and latrines, parks and recreational places, foot-paths, community centres, shelters and hostels for floating population in cities and towns. Funds being earmarked for the " Urban Works Programme " in the Fourth Plan will be utilised for this purpose through the Physical Planning and Housing Sector.

(ix) Mosque Committees and community leaders will be involved in the restriction and ultimate eradication of social evils like prostitution, alcoholism and gambling.

(x) Prevention and systematisation of high rate of urbanisation (migration of rural population to cities) will be attempted through rural community development programmes and through services to guide, counsel, train and place the rural migrants to cities in proper and gainful situations in urban communities.

(xi) Gaps and openings left in the provision of social services and community facilities under the other social service programmes like education, health and housing, will be filled thourgh community development and voluntary social welfare programmes at present undertaken by the Social Welfare Departments.

(xii) The extension of existing social services to rural areas will receive priority. Of the programmes that have continued in the previous Plans, some need a drastic reappraisal and a vigorous new approach. Principal among these is the programme for eradication of eggary. Another may be described as the overall cleansing of public life by the eradication of injustice, corruption and apathy from public administration. Success in this programme can lead to the prevention of a large number of normal social needs developing into serious social problems. A social need is a simple desire or a requirement of an individual or a group which may be a family, a community or a tribe, to satisfy their natural human urges. But when a social need is not met over a period of time, it develops into a social problem. For example, positive and constructive, wholesome and normal occupation of an individual in his home, school and community is his need. If this need is not satisfied, the character and capacity of the individual are adversely affected and he becomes a problematic individual or a juvenile delinquent occupying himself in negative and unwholesome pursuits available in his environments. Most problems are reflections of a failure of subject-matter departments, particularly in the fields of education, health, housing, communications, labour and employment, child welfare, youth development and population control.

Priorities

8. The following priorities will be adopted for the development of Social Welfare Services during the Fourth Plan period :—

(*a*) On principle, children will be given the first priority in all the services and programmes envisaged in the national plan. This will include the social welfare services as contained in the sectoral plan.

(*b*) The second priority will be accorded to women.

(*c*) Financial and professional assistance of voluntary agencies.

(*d*) As regards the Service Programmes—the order of priority will be :—

(*i*) Social services for the handicapped including beggars.

(*ii*) Community development in urban and rural areas.

(*iii*) Youth development.

(*iv*) Social services in secondary settings *viz.*, medical social work, school social work, social services for delinquents.

(*e*) In the essential infra-structural programmes priorities will be :

(*i*) Organisation and Administration.

(*ii*) Training.

(*iii*) Research and Evaluation.

Programmes for the Fourth Plan :

9. During the Fourth Plan period, it is proposed to continue the on-going programmes. Efforts will be made to improve upon, strengthen and standardise them. These programmes are :

(*i*) social services for children and families ; (ii) social services for the economically, physically and mentally handicapped with particular emphasis on the eradication of beggary; (iii) financial and professional assistance of voluntary agencies, universities and colleges ; (iv) urban and rural community development ; (v) social services for the youth ; (vi) medical social work ; (vii) school social work ; (viii) social services for juvenile delinquents and adult criminals and offenders ; (ix) staff welfare services.

10. The programme for ' recreational services for the masses ' will be merged into community development and youth work programmes. A new programme for ' welfare of ex-servicemen ' comprising a large special group of nearly 25 lakhs people, who need training and rehabilitation and welfare services, is suggested. It is also proposed to enhance and strengthen the adult education and literacy services and services for the rural migrants to cities within the on-going programme of community development and voluntary agencies.

11. *Specific Social Welfare Services for Children and women* will be provided by the government and non-government agencies. Wherever facilities are available, these services will be located in the Maternity and Child Health Centres, Rural Health Centres and Community Centres. These willl include recreational-*cum*-educational centres for children ; baby homes; day-care nurseries for children of working mothers ; socio-economic centres/industrial homes for women. The last will also be utilised to make women literate, impart social and health education and provide guidance and counselling on family relationships and general matters of life. Besides, Children's Parks will be made in the cities under the Urban Works Programme. Some 51 service units (East Pakistan : 38, West Pakistan : 13) will be added to the existing 19 (East Pakistan : 12, West Pakistan 7) during the Fourth Plan period.

12. *Social Welfare Services for the Handicapped* will contain preventive and institutional services for all kinds of the handicapped : deaf, dumb, blind, disabled, mentally handicapped ; orphans, widows, old-aged and beggars. The programme for beggary was an integral part of the programme for the handicapped because the bulk of beggars were really handicapped people. A scheme for undertaking a

proper survey of all kinds and categories of the handicapped including beggars will form part of the Plan programme. While the existing 43 institutions and service units (East Pakistan: 37 West Pakistan: 6) will be improved, 54 new ones (East Pakistan : 23, West Pakistan : 31) will be established in the Fourth Plan period.

13. Special attention will be given to the restriction and ultimate eradication of beggary. It has been one of the major social evils facing the country. The massive migration from rural to urban areas, under-employment in the villages and the disintegrating effects of rapid changes in the society are conditions contributing to the spread of beggary. Although programmes aiming at the control of beggary were included in the previous plans yet they were not comprehensive enough to really control this highly complex problem. The Fourth Plan has provided a much larger programme for the eradication of beggary in both the Provinces. Since the data for different categories of beggars are rather poor, the first phase of the programme will be a comprehensive survey of beggars in both the provinces. Once the order of magnitude of the problem is known, multi-phased projects will be started in both the Provinces, which will include the rehabilitation of socially and economically handicapped beggars and the provision of relief for the physically handicapped beggars. It is realised that the problem is too big to be tackled by the government alone. Efforts will be made to involve the private sector in the programme. The assistance of the Auqaf Departments will be sought in the eradication of beggary from the holy places and shrines. Steps will also be taken to induce necessary changes in the relevant legislation .

14. The programme of Community Development will continue in the Fourth Plan period. It will be further strengthened and expanded, both in urban and rural areas. Community centres in the urban and rural areas will be constructed under the works programme. There is a great need for collaboration of the community development programme with programmes of all the government and non-government service agencies working in the rural areas *viz.* cooperation, agricultural extension services, medical services, public health, adult education and mass literacy, housing and physical planning and cottage industries. Provincial Directorates of Social Welfare will make coordinative efforts to ensure optimum integration of services and effect savings in time, money and energy. Also fringe areas of cities especially those of industrial towns and cities, will be given specific and prior attention in the establishment of community development projects. Stress will be laid on providing adequate administrative and professional supervision and direction to the field workers and officers concerned with this programme. In the Fourth Plan period 77 new projects (East Pakistan : 68 West Pakistan : 9) will be established while the existing 163 projects (East Pakistan : 52 ; West Pakistan : 111), will be strengthened further.

15. The programme of ' financial and professional assistance to voluntary agencies ' will continue in the Fourth Plan period. The total allocation of financial grants has been raised from Rs. 22.134 million in the Third Plan to Rs. 55 million in the Fourth. The granting procedures will be simplified and present responsoibilities between Central and Provincial Governments in that respect will be reviewed by them and if considered necessary will be redetermined. Separate and substantial funds will be provided for the East Pakistan Council of Social Welfare. Grants for construction of buildings and equipment will also be afforded to voluntary agencies subject to the presentation of specific schemes and their approval by competent authority. The professional supervision and assistance part of the programme is still weak and will be duly strengthened in the Fourth Plan. Thus, professional assistance and consultation will be provided to voluntary agencies by Provincial Directorates of Social Welfare in planning, organisation, administration and standardisation of their programmes. About 1500 additional voluntary agencies (East Pakistan : 1000 ; West Pakistan : 500) will be covered in the Fourth Plan period.

16. The programme envisaging *social services for the Youth* will continue. It shall not, however, be allowed to overlap the country-wide programme for youth being planned by the Department of Education. The programme will include organisation and establishment of youth development centres and work camps. Utilisation of youth in social welfare tasks will be particularly stressed. In the Fourth Plan period 42 (East Pakistan : 17; West Pakistan: 25) service units for the Youth will be added to the existing 23 units, all in East Pakistan.

17. The Plan programme of *Social Welfare Services in Secondary Settings* will continue. 7 Medical Social Work units ; 18 School Social Work units and 18 service units for delinquents will be added to the existing 76 service units (33 Medical Social Work units ; 22 School Social Work units and 21 units for delinquens) in these specialised fields. Placement of *Medical Social Work, School SocialWork, Services for the Delinquents* under the Directorate of Social Welfare in West Pakistan, as already done in East Pakistan, is advocated. The promotional, remedial and rehabilitative services in these fields as under-taken at present by the Provincial Departments of Health, Education and Home in West Pakistan are not considered satisfactory. Their misplacement has been the main reason for the shortfalls in the implementation of the Plan programmes. The ongoing programme of Staff Welfare Services will continue in the Fourth Plan also. A sum of Rs. 15 million will be spent evenly in East Pakistan and West Pakistan Regions.

Infra-Structural Programmes

18. The programme of organisation and administration, research and training of social workers will be continued as a key programme providing the infrastructure for the execution of all the programmes listed above.

19. (i) The *Provincial Directorates of Social Welfare* need to be up-graded and strengthened. Besides, it is considered assential that social welfare administrative set ups should be streamlined and professionalised. It is necessary to provide due opportunities to the professionally trained social workers to head the professional organisations, including Provincial Directorates of Social Welfare, according to their administrative capacities and professional competence as is already being done in sister social services departments of health, housing and education. Moreover, the dismemberment of West Pakistan has made it necessary that the new Porvincial Governments should have Departments and Councils of Social welfare.

(ii) It is considered essential that voluntary social workers should be given desired social recognition and encouragement by the social welfare administrators.

(iii) Social welfare units should be established in the local bodies.

(iv) The National and Provincial Councils of Social Welfare will continue. But the administrative costs incurred by the Councils will be paid from the Revenue Budgets of the respective governments. Security of service and benefits comparable to the Directorates of Social Welfare should be provided to the Council Staff also.

20. The programme of *Training* in the four University Departments/Colleges of Social Welfare, (Lahore, Dacca, Karachi and Rajshahi) is now a regular feature. The University of Sind has also started Social Work Training lately. Thus, the flow of trained social workers is assured. Facilities for in-service training of

government and non-government social workers will be expanded and strengthened. Orientation programmes in West Pakistan are very weak and need special attention to strengthen them. The overall training programme will comprise:—

(a) training at the University/College level leading to B.A. and M.A. Degrees; (b) in-service training ; (c) orientation courses for volunteers and those interested in social work; (d) integration of specific social welfare courses in all the public administration institutions, particularly the Administrative Staff College and NIPAS. It is recommended that Social Welfare should be introduced as a subject in the syllabii of competitive examinations for Civil Services both at Provinicial and Central levels.

21. As regards *employment* of trained social workers, it is considered necessary that professionally trained workers should be employed in agencies concerned with human development and welfare. Since the content of social work training here includes subjects of cooperation, labour welfare, public health, adult education, family planning, social security, social planning and administration and youth development, trained social workers could be gainfully employed in these several tasks, both by the government and non-government agencies. As such, preference should be given to professionally qualified social workers for employment in Departments concerned with Social Development subjects.

22. More funds than ever before have been allocated for Social Welfare *Research and Evaluation* during the Fourth Plan period. These should be effecting utilised for planning, fixation of targets and prorities, readjustment in the programmes, establishment of criteria for social development planning, organisation of services, allocation of resources and such other tasks concerned with the development of welfare services. Stress will be laid on action/applied research and training of personnel for it. The results of research will be shared with other Departments and voluntary agencies engaged in social development tasks.

23. It is proposed to establish 791 new service units in the public sector (451 units in East Pakistan and 340 units in West Pakistan) and to continue the programme of motivation and support of the existing 4,000 voluntary social welfare agencies. Overall, the Fourth Plan pgogramme envisages a 62 per cent increase over the units at the end of the Third Plan; about 66 per cent in East Pakistan and about 57 per cent in West Pakistan.

Financial Allocations

24. An investment of Rs. 210 million in the public sector is proposed to make up for the past neglect and to restore the balance between the social and the economic sectors of development (Rs. 83 million in East Pakistan; Rs. 67 million in West pakistan and Rs. 60 million in the Centre). This will mean an increase of about 133 per cent over the Third Plan allocation for this sector and about 308 per cent increase over the Third Plan implementation. The figure for the Third Plan was Rs. 90 million. Another Rs.100—125 million should be the allocation for the private sector including Auqaf and Trust Funds. Collection of Zakat, Sadaqat and Khairat will be arranged by Councils and Directorates of Social Welfare. Pesh Imams and Community leaders will be involved in this task.

25. Special consideration has been given to East Pakistan in the allocation of funds in this sector in view of the Provincial Government's laudable efforts in spending Rs.6 to 7 million per annum on social welfare services from their revenue budget. Financial allocations for the West Pakistan Region have also been increased substantially to enable new provinces to reorganise social services and extend them to hitherto neglected areas.

26. In this context, it is recommended that no curtailment should be made from the financial allocations made for the Social Welfare Sector in the Five year Plan, while processing the Annual Development Programmes, since the Plan allocations for the sector are already very small. Besides, the Finance and Planning and Development Departments should release funds earmarked for social welfare projects in good time. Experience tells that delayed release of funds was the main reason for the shortfalls in the implementation of the programmes, since the executing welfare agencies in the Central and Provincial Governments had the requisite administrative organisation and personnel for the purpose. Funds have been their only major limitation.

27. Collection of Zakat and its dispensing will be done on a voluntary basis. A National Welfare Fund will be established to mobilise Zakat, donations and other charities and funds for meeting social welfare needs. An Ordinance to that effect is proposed wehereby the donors will pay at least 25% of their charity donations to the National Welfare Fund. A Board of Trustees will control the Fund and arrange its utilisation in collaboration with National and Provincial Administrations of Social Welfare.

28. Foundations and Trusts operating in the country at the moment will be controlled and guided through appropriate legislation. A study will be conducted about these Funds and Foundations with regard to the utilisation of their finances.

Legislation

29. It is proposed to take a new look at the existing legislation supporting social development and welfare tasks. Laws pertaining to vagrancy, delinquency, beggary, children affairs and family relationships and regulation of Trust Funds need particularly to be examined and new laws drawn up where needed.

United Nations and International Assistance

36. Professional and technical assistance well continue to be sought from the United Nations and its specialised agencies to augment local resources. The U.N.D.P. and UNICEF have been rendering useful technical and consultative services and supplying literature and material equipment for the development of social welfare services in Pakistan since 1952. These arrangements will be continued and improved.

TABLE I

Benchmarks and Physical Targets for the Third and the Fourth Five-Year Plans in Social Welfare Sector

PAKISTAN

Sl. No.	Sub-Sector/Item	Unit	Bench-mark for the 3rd Plan (1964-65)	Target for the 3rd Plan (1969-70)	Bench-mark for the 4th Plan (1969-70)	Target for the Fourth Plan (1974-75)	Per cent Increase Over (1969-70)
1	2	3	4	5	6	7	8
I.	**Programmes :**						
1.	Social Services for Children and Women	Units	3	33	19	70	268
2.	Social Services for the handicapped inclu ing Beggars.	Units	7	49	43	97	123
3.	Financial and Professional Assistance of Voluntary Agencies, Universities and Colleges.	No. of agencies	1,250	400	2,500	4,000	60
4.	Community Development in Urban and Rural Areas.	Units	81	128	163	240	47
5.	Social Services for Youth	Units	17	18	23	65	182
6.	Medical Social Work.	Units	19	40	33	40	6
7.	School Social Work.	(Units)	—	52	22	40	82
8.	Social Services for .. Delinquents.	Units	11	10	21	39	86
9.	Social Services for .. ex-servicemen.	(Units)	—	—	—	2	—
10.	Staff Welfare Services. ..	Units	—	20	20	30	50
II.	**Infrastructural Programmes :**						
1.	Organisation and .. Administration.	Units	5	109	64	67	5
2.	Training	Units	17	27	57	60	5
3.	Research	No. of studies & Publications	12	22	23	41	78
	TOTAL :		172	508	488	791	62.0

EXPLANATORY NOTES

1. The benchmarks include zonal, divisional, district, field-work and service units in addition to the units created in the Provincial Social Welfare Directorates.
2. The benchmark for the Fourth Plan portray the total number of units as existing on 1969-70 in each sub-sector.
3. The total number of sub-sectoral units do not include the number of voluntary agencies as shown in serial number 3.
4. Targets for the Fourth Plan also include the Fourth Plan Benchmark Units.

TABLE II

Benchmarks and Physical Targets for the Third and the Fourth Five-Year Plans in Social Welfare Sector

EAST PAKISTAN

Sl. No.	Sub-sector/Item	Unit	Benchmark for the 3rd Plan (1964-65)	Target for the 3rd Plan (1969-70)	Benchmark for the 4th Plan (1969-70)	Target for the 4th Plan (1974-75)	Per cent Increase over (1969-70)
1	2	3	4	5	6	7	8
I. Programmes :							
1.	Social Services for Children and Women	Units	1	24	12	50	316.6
2.	Social Services for the Handicapped including Beggars ..	Units	4	43	37	60	62.0
3.	Financial and Professional Assistance of Voluntary Agencies, Universities and Colleges ..	No. of agencies.	625	200	1,000	2,000	100.0
4.	Community Development in Urban and Rural Areas ..	Units	40	50	52	120	130.0
5.	Social Services for Youth ..	Units	17	6	23	40	73.9
6.	Medical Social Work	Units	9	30	18	20	11.0
7.	School Social Work	Units	—	40	10	20	100.0
8.	Social Services for Delinquents ..	Units	10	10	20	22	10.0
9.	Social Services for *Ex*-servicemen ..	Units	—	—	—	1	—
10.	Staff Welfare Services.	Units	—	10	10	15	50.0
II. Infrastructural Programmes :							
1.	Organisation and Administration ..	Units	4	58	48	50	4.0
2.	Training	Units	8	10	31	33	6.6
3.	Research	No. of studies and Publications.	5	10	10	20	100.0
	Total ..		98	291	271	451	66.4

EXPLANATORY NOTES

1. The benchmarks include zonal, divisional, district, field-work and service units in addition to the units created in the Provincial Social Welfare Directorates.
2. The benchmark for the Fourth Plan portray the total number of units as existing in 1969-70 in each sub-sector.
3. The total number of sub-sectoral units do not include the number of voluntary agencies as shown in serial number 3.
4. Targets for the Fourth Plan also include the Fourth Plan Benchmark units.

TABLE III

Benchmarks and Physical Targets for the Third and the Fourth Five-Year Plans in Social Welfare Sector

WEST PAKISTAN

Sl. No.	Sub-sector/Item	Units	Benchmark for the 3rd Plan (1964-65)	Target for the 3rd Plan (1969-70)	Benchmark for the 4th Plan (1969-70)	Target for the 4th Plan (1974-75)	Per cent Increase over (1969-70)
1	2	3	4	5	6	7	8
I.	**Programmes :**						
1.	Social Services for Children and Women	Units	2	9	7	20	185.7
2.	Social Services for the Handicapped including Beggars ..	Units	3	6	6	37	516.0
3.	Financial and Professional Assistance of Voluntary Agencies, Universities, and Colleges ..	No. of agencies	625	200	1,500	2,000	33.3
4.	Community Development in Urban and Rural Areas ..	Units	41	78	111	120	8.0
5.	Social Services for Youth ..	Units	—	12	—	25	—
6.	Medical Social Work	(units)	10	10	15	20	33.3
7.	School Social Work	(units)	—	12	12	20	66.6
8.	Social Services for Delinquents ..	Units	1	—	1	17	1,600.0
9.	Social Services for ex-servicemen ..	Units	—	—	—	1	—
10.	Staff Welfare Services	Units	—	10	10	15	50.0
II.	**Infrastructural Programmes :**						
1.	Organisation and Administration ..	Units	1	51	16	17	6.2
2.	Training	Units	9	17	26	27	3.9
3.	Research	No. of studies & publications.	1	12	13	21	61.5
	Total ..		68	217	217	340	566

EXPLANATORY NOTES

1. The benchmarks include zonal, divisional, district, field-work and service units in addition to the units created in the Provincial Social Welfare Directorates.
2. The benchmark for the Fourth Plan portray total number of units as existing in 1969-70 in each sub-sector.
3. The total number of sub-sectoral units do not include the number of voluntary agencies as shown in serial number 3.
4. Targets for the Fourth Plan also include the Fourth Plan Benchmark Units.

TABLE IV

Financial Allocations and Expected Implementation for the Third Plan period and Allocations for the Fourth Five-Year Plan in the Social Welfare Sector.

PAKISTAN

(Million Rs.)

Sl. No.	Sub-sector/Item	Allocation for the Third Plan	Expected Implementation in the Third Plan	Proposed Fourth Plan Allocation	Per cent Increase over the 3rd Plan Implementation
1	2	3	4	5	6
I. Programmes :					
1.	Social Services for Children and Women ..	10.894	6.847	15	119
2.	Social Services for the Handicapped including Beggars	18.723	5.817	62	933
3.	Financial and Professional Assistance of Voluntary Agencies, Universities and Colleges.	22.134	19.933	55	175
4.	Community Development in Urban and Rural Areas	12.999	9.681	33	230
5.	Social Services for Youth	0.474	0.195	4	1,951
6.	Medical Social Work	1.878	1.203	2	66
7.	School Social Work	1.424	0.649	6	825
8.	Social Services for Delinquents	2.830	1.706	4	134
9.	Social Services for Ex-servicemen	—	—	2	—
10.	Staff Welfare Services	3.500	2.847	15	427
II. Infrastructural Programmes :					
1.	Organisation and Administration	1.438	0.159	6	3,673
2.	Training	3.736	2.207	3	36
3.	Research	0.292	0.224	3	1,239
4.	Block Provision for new schemes	10.000	—	—	—
	Total ..	90.322	51.468	210	308

TABLE V

Financial Allocations and Expected Implementation for the Third Plan period and Allocations for the Fourth Five-Year Plan in the Social Welfare Sector.

EAST PAKISTAN

(Million Rs.)

Sl. No.	Sub-sector/Item	Allocation for the Third Plan	Expected Implementation in the 3rd Plan	Proposed Fourth Plan Allocation	Per cent Increase over the 3rd Plan Implementation
1	2	3	4	5	6
I.	**Programmes :**				
1.	Social Services for Children and Women ..	8.075	5.732	10	744
2.	Social Services for the Handicapped including Beggars	14.375	3.485	32	800
3.	Financial and Professional Assistance of Voluntary Agencies, Universities and Colleges(1)	8.250	9.168	30	227
4.	Community Development in Urban and Rural Areas	—	—	15	—
5.	Social Services for Youth	0.074	0.195	2	926
6.	Medical Social Work	0.946	0.060	1	1,567
7.	School Social Work	0.440	0.097	2	1,962
8.	Social Services for Delinquents	2.830	1.706	2	17
9.	Social Services for *Ex*-servicemen	—	—	1	—
10.	Staff Welfare Services(2)	1.750	1.097	7	538
II.	**Infrastructural Programmes :**				
1.	Organisation and Administration	—	—	4	—
2.	Training	3.260	1.775	2	13
3.	Research	—	—	2	—
4.	Block Provision for new schemes ..	10.000	—	—	—
	Total(3) ..	50.000	23.315	110	334

1. The proposed Fourth Plan Allocation of Rs. 30 million for this sub-sector also includes the central provision of Rs. 25 million out of the total central allocation of Rs. 45 million (Labour and Social Welfare Division).
2. The proposed Fourth Plan allocation of Rs. 7 million for this sub-sector is entirely central provision from the total central allocation of Rs. 15 million (Establishment Division—Staff Welfare Organisation).
3. The proposed Fourth Plan allocation also includes the central provision of Rs. 32 million for East Pakistan, out of the central allocation of Rs. 60 million.

TABLE VI

Financial Allocations and Expected Implementation for the Third Plan period and Allocations for the Fourth Five-Year Plan in the Social Welfare Sector.

WEST PAKISTAN

(Million Rs.)

Sl. No.	Sub-sector/Item	Allocation for the Third Plan	Expected Implementation in the Third Plan	Proposed Fourth Plan allocation	Per cent Increase over the 3rd Plan Implement
1	2	3	4	5	6
I. Programmes :					
1.	Social Services for Children and Women ..	2.819	1.115	5	348
2.	Social Services for the Handicapped including Beggars	3.064	1.882	5	166
3.	Financial and Professional Assistance of Voluntary Agencies, Universities and Colleges(1)	13.884	10.765	25	132
4.	Community Development in Urban and Rural Areas	12.999	9.681	18	80
5.	Social Services for Youth	0.400	—	2	—
6.	Medical Social Work	0.932	1.143	1	—
7.	School Social Work	0.984	0.552	4	624
8.	Social Services for Delinquents	—	—	2	—
9.	Social Services for *Ex*-servicemen	—	—	1	—
10.	Staff Welfare Services(2)	1.750	1.750	8	357
II. Infra structural Programmes :					
1.	Organisation and Administration	1.438	0.159	2	1,158
2.	Training	0.476	0.432	1	132
3.	Research	0.292	0.224	1	346
	Total (3)..	40.322	28.153	100	255

1. The proposed Fourth Plan Allocation of Rs. 25 million for this sub-sector also includes the central provision of Rs. 20 million, out of the total central allocation of Rs. 45 million (Labour and Social Welfare Division).
2. The proposed Fourth Plan allocation of Rs. 8 million for this sub-sector is entirely central provision from the total central allocation of Rs. 15 million for this sub-sector (Establishment Division—Staff Welfare Organisation).
3. The proposed Fourth Plan allocation also includes the central provision of Rs. 28 million for West Pakistan, out of the total central allocation of Rs. 60 million.

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CHAPTER 17

AGRICULTURE

PART I. CROP PRODUCTION SUB-SECTORS

Introduction

The break through the centuries old stagnation in agriculture in the nineteen sixties in Pakistan was not an isolated fortuitious event. Such historical changes seldom take place without adequate and visible cause. Fundamental changes have been going on in the farmer's way of life for more than a decade. And the significant fact is that these changes have been conciously brought about. On the one hand, there has been a planned increase in the material inputs for agricultural production ; water, fertilizers, improved seeds, and control of pests and diseases. On the other hand, there has been a radical change in the outlook of the farmer who has at last begun to turn away from traditional farming practices and to experiment with and adopt modern scientific technology and farming practices. The physical inputs by themselves would not have brought about the change. The largest scheme of tubewells or of construction of dams and canals would have failed if the farmer did not see and utilise the control they brought him over the supply and timing of irrigation water. As it is, most of the tubewells in West Pakistan have been installed in the private sector. The Government's programmes for the supply and distribution of fertilizers, improved seeds and pesticides as well as the Government's policies of subsidy on major inputs and support prices on major crops could only bear fruit if they met with a favourable response from the farmer. The Pakistani farmers' response, in fact, was more than favourable—it was eager and quick. It is this combination of economic planning and progressive outlook of the farmers that has, in recent years, changed the very shape of agriculture in Pakistan. From a stage when the major problems were those of hunger and of shortage of food, it is moving towards one where the principal problems are likely to be of plenty and of surpluses.

2. A review of the progress of agriculture sector reveals that a growth rate of 4.2 per cent per annum was achieved during the Third Plan against 3.4 per cent in the Second Plan and 1.3 per cent obtained in the 1950s. This growth rate has been achieved despite the fact that the first two years were rather poor particularly from foodgrains production point of view because of unfavourable climatic conditions, floods and war with India. This spectacular growth in agriculture sector ensues mainly from large increases in crop production. The data given in Table 1 indicate that the Third Plan target of foodgrain production will be exceeded, bringing the country closer to self-sufficiency. West Pakistan will strive to export abroad aromatic (superior varieties) rice in increasing quantities, besides supplying rice and some wheat to meet the deficit of East Pakistan.

3. The large increases in the output of crops that took place during the Third Plan were due to four principal developments. Firstly, the high yielding varieties of wheat, rice and to a lesser extent of maize provided the basis for the spurt in production. Secondly, irrigation water supply in West Pakistan increased over 20 per cent during the Third Plan period as a result of increase in canal water supplies and the installation of tubewells, whereas in East Pakistan number of low lift pumps increased eight folds. The enhanced supplies of irrigation water enabled improvements in cropping patterns and cropping intensities, and helped in raising the land productivity. In areas where irrigation supplies have improved, farmers have more control over water supply and timing of irrigation water ; this has reduced the dependence of farmers on weather and helped

TABLE I

Production of various crops for the years 1964-65 and 1968-69, the Third Plan targets and the Fourth Plan benchmarks

Crops	1964-65 (Actual)			1968-69 (Actual)			Third Plan Target			Proposed Fourth Plan Benchmarks		
	East Pakistan	West Pakistan	Total	East Pakistan	West Pakistan	Total	East Pakistan	West Pakistan	Total	East Pakistan	West Pakistan	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
					(thousand tons)							
Wheat	34	4,518	4,552	92	6,513	6,605	64	5,400	5,464	75	7,000	7,075
Rice	10,337	1,329	11,666	11,165	2,000	13,165	12,725	1,720	14,445	11,543	2,300	13,843
Maize	3	520	523	3	616	619	16	770	786	3	800	803
Bajra		439			325							
Jowar	12	288	855	18	258	696	20	750	770	15	730	745
Barley		116			95							
Total foodgrains ..	10,386	7,210	17,596	11,278	9,807	21,085	12,825	8,640	21,465	11,636	10,830	22,466
Gram	37	661	698	54	520	574	38	700	738	50	540	590
Pulses	201	201	402	236	173	409	275	220	495	240	240	480
Sugarcane ..	6,231	18,373	24,604	7,297	21,624	28,921	7,050	21,250	28,300	8,000	21,860	29.860
					(thousand bales)							
Cotton	15	2,124	2,139	13	2,961	2,974	20	3,500	3,520	15	3,000	3,015
Jute	5,328	—	5,328	5,754	—	5,754	8,000	—	8,000	7,000	—	7,000

1	2	3	4	5	6	7	8	9	10	11	12	13
					(thousand tons)							
Cotton seed ..	6	742	748	5	1,036	1,041	7	1,230	1,237	6	1,050	1,056
Other edible oil seeds, except cotton seed	124	241	365	211	279	480	270	320	590	225	300	525
Potatoes	396	170	566	787	194	981	1,625	1,480	3,105	900	200	1,100
Other vegetables ..	653	708	1,361	788	1,567	2,356				1,710	1,880	3,590
Fruits	1,561	1,157	2,718	1845(a)	1555(a)	3400(a)	1,760	950	2,710	1,900	2,100	4,000
					(million pounds)							
Tobacco	60	182	242	89.6	275.5	365.1	78	195	273	90	300	390
Tea	63	—	63	63	—	63	73.5	—	73.5	70	—	70

(a) for 1967-68.

stabilisation of production as well as farm income. Thirdly, with the help of Government promotion and subsidy, fertilizer consumption shot up from 132 thousand to 435 thousand nutrient tons over the Third Plan period. Increased water supply and availability of adequate quantities of fertilizer provided the necessary impetus to the farmers to adopt the high yielding varieties evolved in Pakistan or imported from abroad. These efforts were supplemented by a fourth programme *i.e.*, measures for protection of crops against pests and diseases both through aerial and ground operations.

4. Promising as these developments have been, their spread is far from complete. Most significantly, their impact is weak in East Pakistan. Flood control programmes have provided some measure of protection to crops but large areas still remain unprotected. Similarly, irrigation facilities have been expanded mainly through low lift pumps, which will cover about 750 thousand acres during 1969-70 as against 130 thousand acres in 1964-65 ; this is quite insignificant proportion of the total cropped area. The newly introduced high yielding varieties of rice have so far given better returns in West Pakistan than in East Pakistan, though with the introduction of new varieties, which are in the final stages of experimentation, rice production in Eastern province may rise rather rapidly in the Fourth Plan. Furthermore, fertilizer use did not expand at a fast pace in Eastern province, because of the small size of holdings, climatic factors and limited means of the farmer. The result has been that the farmer in East Pakistan has not benefited much by the introduction of new technology as has been the case in the Western province. Systematic studies, in depth, are required to isolate the problems involved in agricultural development in East Pakistan and to devise means to solve them.

5. By contrast, West Pakistan is likely to continue producing more foodgrains than it will require domestically. The main concern of the policy makers in that province would be to take a lead in finding the outlets for agricultural surpluses. This will mean that the products must be competitive, uniform and of a high quality. The level and structure of support prices will need to be reviewed in this context. Modern milling facilities will need to be installed to produce standardised products and proper grading procedures to control quality devised for exportable commodities.

6. During the Third Plan the objective of foodgrains self-sufficiency assumed over-riding importance. In the Fourth Plan when the country would be in a position to export ; two aspects should be carefully considered. First, preference in policy making should be given to comparative advantage of growing various crops and selective efforts should be replaced by general considerations. Research on cash crops should be given comparable resources and support price reviewed to adjust them in a way that they act as incentive for increased production of crops required for domestic consumption as well as for export. Price and cost structure must be examined in the general setting of the economy as well as within agriculture. In this context the extention of export bonus to agricultural commodities will need to be considered.

7. Efforts will also be made to shift emphasis to other food crops to provide nutritionally superior diet to the people. The Fourth Plan aims at increasing output of oilseeds, pulses, eggs, poultry and other livestock products. Increased production of these commodities will also result in lowering their prices and increasing the consumption to provide more balanced diet to the people.

8. The earlier pessimism about the growth prospects in agriculture sector has given place to a good deal of optimism. This optimism is based on the observed results of the seed-based technology and is thus well founded. This should not, however, lead one into a false sense of complacency and a belief that an answer

has been found to agricultural problems in the country. While benefits would continue to be reaped from the spread of seed-based technology for some time, long term prospects of agriculture would depend upon the investment made in improving the infra-structure. Arrangements for continuing research need to be strengthened for evolving new varieties of seeds and new techniques of cultivation. Similarly, agricultural credit, marketing and extension organisations would need to play an important role in providing the link between the agriculture sector and the growth impulses emanating from changes taking place in other sectors.

Objectives

9. The objectives of the agricultural development programme for the Fourth Plan are:

(a) to maintain and further accelerate the pace of agricultural development attained during the Third Plan through a further broadening of the use of advanced technology and an efficient utilization of land, labour and other resources;

(b) to achieve and maintain foodgrain self-sufficiency and to use the increased productive capacity for release of resources to expand production of protective and protein-rich foods in order to meet the consumer's nutritional needs more effectively;

(c) to further increase production of the agricultural raw materials required by the domestic industries and for export, particularly of jute and cotton;

(d) to develop foodgrain exports from West Pakistan to the extent feasible in the light of international market situation and domestic needs and possibilities; and

(e) to broaden the distribution of farm income and to provide the farmers with more amenities for better living.

Strategy and Policy Issues

Exports

10. With the achievement of foodgrain self sufficiency, the country will be able to make (new and more pleasent, though difficult) choices between the extent to which it pursues alternative policies. These relate to the procurement of foreign exchange through channelling food and non-food crops for export and diversification of agriculture to meet nutritional needs and the expectations of higher standards of living.

11. One alternative would be to further increase the production of the newly introduced high yielding varieties of wheat, rice and even of maize and channel it into export markets. This alternative requires investments in institutions and facilities to aid in exporting of uniform and good quality commodities. Quality grades would need to be established and enforced; cleaning and milling equipment would be needed; adequate and efficient transportation and port equipment must be available; and experience must be acquired for efficient export marketing. A more important need would then be to review the price policy so that the prices are competitive in the world market. This may necessitate adjustments in each of the three areas: reduction in domestic support prices; extension of export bonuses to foodgrain exports, and subsidization of internal costs on preparation and transportation of commodities for export, until adequate experience has been gained. The reduction in the domestic support prices relative to general price level should not be so great as to impede and discourage technological advances.

12. One objective of the plan is to divert some of the land and other resources now utilized for food grain production to raising crops that provide protective and nutritional quality to diet. Furthermore, as standards of living improve, the demand for foods of animal origin will rise and production of these products must be raised accordingly, if the prices are not to increase. This requires increased production of feedgrains for animals and development of ranges. Pursuance of this policy will require more research and data to determine which areas will most appropriately remain under grain production and which ones can best be transferred to new cropping pattern so as to provide larger quantities of pulses, oilseeds, fruits, protein-rich crops, vegetables, and animal products. Research programmes to evolve high yielding varieties of pulses, oilseeds and other crops will need to be given priority during the Fourth Plan.

13. A further alternative would be to direct some of the land to cotton and jute in order to expand their production and export. But without some adjustments in their domestic prices *vis-a-vis* prices of competing crops, it may not be possible to expand the exports of these traditional products, or even to maintain the present level of production and export. It may be more economical, on the other hand, to apply bonus vouchers to these exports than to attempt to export, say, wheat into an already crowded world market.

14. The degree to which each of these policies is followed will be difficult to determine, partly because the price that Pakistan can expect to receive will not be known until a number of suitably graded sales are completed, and, partly because the effects of recent technological changes and of greater availability of water on cost of production of crops are not yet predictable.

15. Whatever goals of production are agreed upon, the entire pattern of agricultural and export policies will have to be necessarily reviewed and revised almost annually to provide a consistent and cohesive set of signals to the producers, marketers, processors and exporters of farm products. This includes consideration of variable subsidies on selected inputs, changing support prices, using bonus vouchers, applying grading and quality standards, developing extension education programmes and other appropriate discriminating means. Also, whatever goals of production are agreed upon, the marketing, processing and grading functions of inputs and products should be examined to make sure that they are geared to stimulate rather than act as a bottleneck to the pursuit of these production goals.

16. Not all farmers are able to adopt the new technologies like the use of large quantities of fertilizer and have access to greater water supplies needed. Thus the larger and irrigated farms are more able to respond and gain economically as compared with those dependent upon rainfall or inadequate canal water. For the farmer left behind because his resource base cannot productively use the new technology, the alternatives described here may mean nothing except lower prices and higher costs. Perhaps he will benefit by shifting to another crop, perhaps he can work off his farm helping others collect their larger harvest, but these are small consolations and provide little additional income. Hence, as the economic issues on production goals are resolved, the next issue needing thought and programmes is to help those farmers unfavourably affected. Clearly, for most of them high prices have limited impact, since they have only small quantities to sell ; the task is to devise new programmes which may also involve and benefit these farmers during the process of agricultural development. Such programmes will be difficult to devise and even more difficult to operate, but social justice requires that the effort be made. Studies and surveys for the purpose are needed which will be taken up during the Fourth Plan.

Inputs

17. The question of providing subsidies on agricultural inputs (like fertilizer, pesticides, water) during the Fourth Pltn needs careful consideration. In this respect, a number of issues should be examined. Many of these inputs from part of the farmers' variable costs and a rise in their prices will make the benefit-cost ratio of new technology less attractive. Others affect overhead costs, and this have less effect upon the existing cost of production. The desire for further modernization of agriculture and to broaden the distribution of income amongst various sizes of farmers would argue for a slower elimination of subsidies for variable cost inputs and for inputs important in the operation of the small farms.

18. During the Third Plan period, fertilizer use in East Pakistan fell substantially short of the target fixed for the purpose. However, in order to achieve the desired growth rate in agriculture in East Pakistan during the Fourth Plan, a rapid increase in the use of fertilizer is one of the major requirements. In order to provide necessary incentives for the accelerated use of fertilizer by the farmers, it seems necessary to keep the existing sale price during the Fourth Plan period. The situation in West Pakistan, is, however, rather different where the target of fertilizer use as fixed for Third Plan would be surpassed by about 20%. The rapid increases attained in West Pakistan indicate that farmers are getting quite used to the use of this input. This situation, alongwith the financial constraints, justifies the reduction during the Fourth Plan in the subsidy presently being given on the sales of this input. But, on the other hand to encourage continued adoption of new varieties for obtaining higher production in order to be able to eliminate imports and expand exports of various commodities, the benefit-cost ratio of tubewells, fertilizer, and disease and pest control programmes should be favourable. Keeping this in view, it is proposed to increase the sale price of fertilizers and hence reduce the existing subsidy gradually so that it stands reduced to insignificant level by the end of the Fourth Plan. In addition, availability of cheaper fertilizers from domestic production would also help reduce the subsidy cost. Increase in the sale prices would be comparatively more in case of the nitrogenous fertilizers than in the phosphatic and potassic fertilizers. This economic measure in the form of discriminatory price policy will, *inter alia*, help correct the imbalanced use of the various fertilizers. Reviews of the fertilizer programme will be made annually to ensure that their higher prices do not stifle the incentives to increase production or put the Pakistani farmers at a disadvantage in the world markets.

19. The subsidy on the cost of pesticides has been reduced in West Pakistan from 100 per cent to 75 per cent but, in East Pakistan, the pesticides are still being supplied to the farmers at 100 per cent subsidy. Aerial operations are conducted on 100 per cent subsidy basis both in East and West Pakistan. It is proposed to gradually reduced the subsidy on all plant protection operations in East and West Pakistan during Fourth Plan, as the discontinuance of the free service would be desirable both from the financial and administrative points of view and to induce farmers to participate more actively in these operations.

20. The present subsidy of 65 per cent allowed by the Government on the surface power pumps hired out by the East Pakistan Agricultural Development Corporation is proposed to be eliminated by the end of the Fourth Plan period. The subsidy on land development operations through the use of heavy earth moving machinery in West Pakistan, however, is proposed to be continued for small land holders, because of the high initial costs involved

in purchases of the machinery and in development of more difficult land, which otherwise would not be brought under cultivation at a rapid rate. Expansion of agricultural mechanization will be selective so as it does not adversely effect the rural employment.

21. In order to encourage production of poultry, eggs, milk and meat, it may be necessary to provide such production incentives as providing balanced animal feeds at reasonable prices, leases of state lands to interested private enterprise, tax holiday, remission of land revenue and similar other economic and fiscal measures that may be considered feasible.

22. The taking over of a larger proportion of fertilizer distribution by private enterprise during the Third Plan has amply demonstrated that the private sector can play an important role in providing supplies of inputs to farmers. During the Fourth Plan the private sector will be encouraged to supply pesticides and fungicides, to hire out agricultural machinery, particularly for use by smaller land holders, to set up modern rice milling facilities to provide storage facilities and to produce and multiply improved seeds of major crops. Moreover, cooperatives will be encouraged to expand their handling of farm supplies in order to provide healthy competition in the distribution of farm inputs particularly in East Pakistan.

23. The demonstrated willingness of farmers to adopt modern farm technology demands that agricultural research and extension services should be production oriented and that there is a continuous flow of technical information to farmers on improved farming practices. The agricultural extension service which will be strengthened through the establishment of Union Extension Centres, will concentrate more on improving farm practices with a view to increasing productivity of farms including the small-size farms. Extensive training programme for the farmers will also help achieve these goals. In the barani areas, where the new technology of improved seed remains limited, soil conservation programme will be given high priority to raise farm incomes.

24. Recent changes in Pakistani agriculture expand the use of purchased inputs, increase the degree of commercialisation and add substantially to the volume of sales. Each of these requires greater use of credit, as well as greater marketing facilities, and these in turn require credit. Appropriate credit agencies will be encouraged to increase loans, particularly to the smaller farmers for productive purposes, while marketing institutions will be encouraged to become more efficient and thus increase the farmers' share of the ultimate selling price of their produce.

Guaranteed Prices and Procurement Operations

25. The Government has placed great reliance on price mechanism as a means of accelerating farm production and incomes. Guranteed minimum prices of major food crops were fixed in both the Provinces which has served as an incentive to increase area under production of these crops and to adopt better cultural practices and new technologies resulting in higher acre-yield and total output. The production of wheat in West Pakistan during the first two years of Third Plan remained low and difficulties in importing food grains at the needed time caused the prices to shoot high. To induce the farmers to increase production of foodgrains, the support price of wheat was raised from Rs. 14.50 to Rs. 17.00 per maund in April, 1967 to be operative for a number of years. With the price incentives an adoption of new seed and use of other inputs together with favourable climate conditions, the wheat production rose to 6.3 million tons in 1967-68 and to 6.5 million tons in 1968-69

As this production still falls short of the total national requirements, the support prices of wheat would be continued during the coming years also and the position will be kept periodically under review to determine the level at which price support should be given.

26. Support prices are only effective if the farmers benefit from the programme when market prices tend to go below the set limit. Pakistan has succeeded in carrying out this programme effectively by providing adequate machinery for procurement operations, building up storage capacity and allocating necessary funds for purchase purposes. It may be stated that about 780,000 tons in 1968-69 and about 802,000 tons in 1969-70 of wheat were procured under this programme, which comes to about 12 and 14 per cent of the total crop harvested, respectively.

27. Similarly, to give impetus to production of *basmati* and IRRI rice in order to make more supplies available for exports and to meet the national requirements, the procurement price of basmati rice was raised to Rs. 31.00 per md. in 1967-68 and to Rs. 38.00 in 1968-69 against Rs. 28.00 in 1966-67. The production of rice has gone up considerably during the last two years so much so that disposal of basmati abroad is facing some difficulties. The support price of basmati rice was reduced to Rs. 35.00 per md. in August, 1969 and was further lowered to Rs. 32.00 per maund in May, 1970 (for 1970-71 crop). Like wheat, the programme of price support of rice has been successfully carried out with the result that the quantity of superior rice procured which was about 130 thousand tons previously, rose to over 160 thousand tons in 1967-68 and to about 225 thousand tons in 1968-69.

28. Support prices for rice and paddy have also been fixed in East Pakistan; the prices are higher (by about Rs. one per md.) in the border belt than in the hinterland to discourage possible smuggling across the border. The paddy support price has been gradually increased over the years so much so that the price of paddy in 1968-69 was Rs. 18.00 against Rs. 13.00 per md. in 1966-67. Similarly, support price of milled medium rice has now been fixed at Rs. 29.79 as against Rs. 21.71 (hinterland) per md. in 1966-67 while the price of coarse rice is Rs. 29.41 and Rs. 21.34 per md. in the corresponding years.

29. As the prices of paddy and rice have usually remained above the level of the support prices, procurement of paddy and rice in East Pakistan remained at low level and in 1968-69 for instance, only about 14,000 tons of paddy and 170 tons of rice were procured.

30. The support price programme was not restricted to foodgrains crops only but was extended to commercial crops like jute. With a view to stabilizing the jute price and ensuring payment of statutory minimum prices to the growers the Jute Board undertakes to purchase jute in kutcha bales under the Guarantees Repurchase Scheme from the appointed kutcha balers as its agents. These agents are required to support and maintain the minimum prices in the centres of their operation. But these balers operate in areas where it is more economical to have these arrangements instead of direct purchase centres operated by the Government. The minimum prices of the jute at growers premises of primary markets have been fixed between Rs. 27.00 and Rs. 28.00 farmers. Similarly, support prices for sugarcane in both the wings and for ground-nut in the Western Wing are being operated for the benefit of the growers.

31. In the light of successes achieved during the Third Plan, prices support operation required to give strength to the price of given crops received by farmers would be operated during the Fourth Plan period. These support prices will, on the one hand, help reduce seasonal and annual fluctuation of producers as well as consumers' prices and, on the other hand, be used as an instrument for bringing changes in cropping pattern and inducement for higher production of crops needed for domestic and for export.

Agro-based and allied industries

32. Setting up of facilities for processing and storage of agricultural commodities and for adequate supply of agricultural inputs should simultaneously proceed with the increased agricultural production envisaged during the Fourth Plan. These fields are rice milling, milk processing, vegetable and fruit processing, cold storages, and manufacture of fertilizers, pesticides and agricultural implements. Proper and adequate facilities for agro-based industries will help promote international and national sales of agricultural produces such as cotton, rice, fruits and vegetables and will help bring higher returns to the grower and sustain his incentive to produce more. In addition, these industries can also become an instrument for price stablisation. Conversely, if the surpluses fetch low prices or are unsaleable in the international market, local prices will slump which could deter the grower from producing these commodities.

33. Similarly, local manufacture of fertilizers and pesticides needs to be encouraged to reduce burden on foreign exchange requirements and to ensure timely supplies. To the extent domestic production is cheaper it would help reduce subsidy costs. A well-integrated programme for the manufacture of the agricultural inputs and for processing of the agricultural produce needs to be developed after conducting proper studies.

Nutritional needs, present status and targets

34. It is generally agreed that malnutrition causes impairment of physical and mental health, ratards intellectual development and reduces to a large extent, working capacity of children. Improvement of nutrition, in addition to being commonly accepted as an important abjective of social welfare, is increasingly being recognised to assist in economic and social development.

35. Nutrition surveys conducted in both the provinces by the Directorate of Nutrition Survey and Research, Government of Pakistan, and also the studies made in the Planning Commission, have revealed the seriousness of nutritional problem in Pakistan. The agricultural development programmes in the previous Plans gave high priority to augmenting foodgrain production. However, with approaching self-sufficiency in foodgrains, the Fourth Plan aims at further diversifying agricultural production to provide a nutritionally better blanced diet to the people. The daily per caput consumption of calories, proteins and fats, alongwith the recommended targets agreed upon by Inter-Departmental Committee on Nutrition are given in table 2. The data reveal that although some improvement has taken place in the total consumption of calories overtime, the daily diet stell needs to be increased by about 250 calories per caput per day, *i.e.* by about 12 percent, to reach the recommended level. The closing of this gap should receive high priority during the Fourth and future Plans.

TABLE 2

Per Capita Consumption of Calories, Proteins and Fats for 1959-60, 1964-65, 1969-70 *and* 1974-75

Nutrient	Recommended diet (Target)	1959-60	1964-65	1969-70	1974-75 (a)(Projected) Estimated
1	2	3	4	5	6
	——(number per head per day)——				
Calories	**2,350**	**1,809**	**2,006**	**21.03**	**2234**
From					
(i) Foodgrains ..		1,395	1,506	1,591	1672
(ii) Fats & Oils ..	235 to 350	46	61	63	76
(iii) Other sources ..		368	439	449	486
	——grams per head per day——				
Proteins	**62.5**	**44**	**47**	**48**	**51**
From					
(i) Plant source ..	37.5	37	39	41	43
(ii) Animal source ..	25.0	7	8	7	8
Fats		**20**	**22**	**22**	**24**

(a) The estimated consumption of nutrients are based on the production targets of food crops set for the Fourth Plan and the estimsed foreign trade data. In case of livestock, poultry products and fish, due to non availability of relevant data, precise targets for the Fourth Plan could not be worked out. But, for this excerise, on a very rough basis, a 5 percent increase in per caput consumption of these products has been assumed over the Fourth Plan period. Details of targets would be worked out as more and better statistics become available.

It will also be noticed that about 75 per cent of chalories in an overage Pakistani's diet are derived from foodgrains against the proportion of less than 40 per cent in developed countries, which is by itself a presumptive evidence of malnutrition. But inspite of efforts to further diversify agricultural production in order to improve the balance of the diet, it is probable that much of the calorie gap will have to be filled, during the Fourth Plan period, by a greater cereal consumption. Furthermore, the contribution of fats and oils to the total calorie consumption is only 3 per cent against the recommended need of 10 to 15 per cent, and the consumption of proteins is only 48 grams per caput per day against 62 5 grams recommended by the nutritionists.

36. With a view to improving the diets, the Fourth Plan aims at intensive development work for increasing the production of groundnuts, cotton, soyabean pulses, and other oil and protein rich crops, protective crops like fruits and vegetables, poultry, eggs, livestock products and fish. If the production targets set forth for the Fourth Plan are achieved, on an average, Pakistani's diet will still be deficit by over 100 calories. The protein consumption situation will also improve, but the country will not reach optimum level of consumption, especially for animal protein.

37. To further improve the dietic status of Pakistanis during the coming years, it is high time that the country should stop depending completely on conventional methods and take advantage of recent advances in food technology. Cereal food fortification has been found to be one of the most effective, the cheapest, and the quickest methods of correcting the malnutrition situation in countries where intake of cereals in daily food is quite large. Similarly, the availiable milk supply could easily be doubled by toning the milk with groundnut protein or cotton seed protein and adding equal amount of water to it. Likewise, beverages (fruit juices, soft drinks) could also be made more nutritive by adding vegetable proteins. In fact, increased emphasis should be placed on developing fruit juice industry in the country and fruit juices can then be mixed with vegetable proteins to make them more nutritive. Processing of oil-seeds could be modified to obtain foodgrain-flours, besides extracting edible oils, to fortify the existing food and also for use in the manufacture of protein-rich new products like meat analogs, beverages, weaning foods, etc. Production and marketing of such products will help improve the nutritional level of Pakistanis, diets.

38. In addition to augmenting production of food materials in the country, a concerted action by several government ministries and departments concerned with well-being of the people, is necessary to make people nutrition conscious. For this purpose subsidised feeding programes in schools, hospitals, etc., and educational and promotional measures should be adopted to ensure maximum benefits to the people.

Production Targets

39. For working out crop production targets for the Fourth Plan, account has been taken on the one hand, of the total need for each major crop including requirements for human consumption, industrial uses and exports and, on the other hand, of the feasibility and economics of production in the light of various physical and financial limitations. The targets thus worked out for the Fourth Plan are given in Table 3 alongwith the benchmarks of production.

40. As a matter of policy, the Fourth Plan places major reliance on improvement in acre-yields for attaining the Fourth Plan crop production targets. It is estimated that for major crops about three fourths of the additional production envisaged over the Fourth Plan period will be obtained through improved productivity of land. Detailed programmes for research, extension, institutional arrangements and supply of inputs have been discussed at appropriate places in this Chapter.

TABLE 3

Benchmarks and Targets of Crop Production for Fourth Plan

Crops	Benchmarks			Targets			Increase of targets over benchmarks
	East Pakistan	West Pakistan	Total	East Pakistan	West Pakistan	Total	
1	2	3	4	5	6	7	8
		(thousand tons)					per cent
Wheat	75	7,000	7,075	200	9,500	9,700	37
Rice	11,543	2,300	13,843	15,800	3,700	19,500	41
Maize	3	800	803	4	1,000	1,004	25
Other Foodgrains	15	730	745	16	750	766	3
Total Foodgrains	11,636	10,830	22,466	16,020	14,950	30,970	38

1	2	3	4	5	6	7	8
			——(thousand tons)——				
Gram	50	540	590	55	625	680	15
Pulses	240	240	480	300	300	600	25
Sugarcane	8,000	21,860	29,860	11,000	26,000	37,000	22
Potatoes	900	200	1,100	1,400	300	1,700	55
Other vegetables	1,710	1,880	3,590	2,200	2,440	4,640	29
Cotton seed	6	1,050	1,056	6	1,504	1,510	43
Oilseeds Other than cotton seed	225	300	525	340	600	940	79
			——(thousand bales)——				
Jute	7,000	—	7,000	9,000	—	9,000	29
Cotton	15	3,000	3,015	17	4,300	4,317	43
			——(million lbs.)——				
Tobacco	90	300	390	115	400	515	32
Tea	70	—	70	90	—	90	29

41. The Fourth Plan aims at attaining self-sufficiency in foodgrains and to produce surpluses for export, wherever comparative advantage favours it. The production targets of the Plan will enable the attainment of this target and leave a sizeable surplus for exports. Detailed analysis of and prescriptions for consumption requirements have been given in Chapter 7. By 1974-75, West Pakistan will be surplus in both rice and wheat, substantially so in the former. East Pakistan may, however, need to import some wheat from abroad in addition to imports from West Pakistan.

42. It would not be possible to increase the production of edible oil seeds high enough by 1974-75 to domestically meet the nutritional requirements of the population. As such the country will continue depending on the import of commodities including those of under PL-480 programme. Policies and programmes will, however, be implemented to augment the production of these crops to the optimum level. This will include evolution, acclamatisation and introduction of high yielding varieties of existing and new oilseed crops, effective programmes for supply of good seeds in adequate quantities, effective plant protection programmes, and provision of economic incentives to the cultivators. Production of soyabean and groundnuts will increase through assured market for the produce at a reasonable prices. This will be done by establishing oil mills, to begin with, in the public sector at suitable places and as mentioned above, by providing support prices at an economic level.

43. The Fourth Plan emphasises increase in the production of pulses—an important source of vegetable proteins, mainly through accelerated research on the evolution of new varieties and educational programmes for increasing the acre-yields. Incentives to farmers may have to be provided and measures taken to encourage proper consumption of greater production of pulses.

44. For increasing sugarcane production by about 24 percent over the Fourth Plan period, it is envisaged to intensify and re-organise the work at the Sugarcane Research Station, Ishurdi (East Pakistan) for evolving new varieties for the whole country and to undertake concentrated educational and developmental work around the mills to increase the acre-yields of sugarcane.

45. Production of fruits, potatoes and other vegetables is likely to increase considerably during the Fourth Plan period, for which special programmes will be designed and implemented. Improved marketing, a storage and transportation facilities will be provided.

46. The Fourth Plan aims at increasing tobacco production in both the Provinces to a level to meet the domestic demand of cigarette industry and does not envisage any substantial export to foreign markets. Similarly, increase in tea production, besides fully meeting the national requirements, will leave some surpluses for export, which may be sufficient to pay for the high quality tea imported for blending purposes.

47. The target of producing about 4.3 million bales of cotton in 1974-75 provides for an exportable surplus of about one million bales after meeting the increasing domestic mill requirements of about 3.3 million bales. Similarly, with the achievement of the production target of 9.0 million bales of raw jute, it will be possible to meet the local jute manufacturer's requirements of about 6 million bales in 1974-75 and export the balance of 3 million bales.

48. Various programmes proposed to be implemented to achieve the targets of crop production set for the Fourth Plan are described in the following pages.

Fertilizer

49. Rapid increase in the use of fertilizer during the last decade is one of the principal factors responsible for revolutionising crop production. Emphasis has, therefore, been laid during the Fourth Plan to maximise its use to the feasible extent. Keeping in view the requirements of various crops, absorption capacity of the farmers and other conditions (like credit) obtainable during the Fourth Plan, it is planned to expand the use of fertilizer from the estimated base consumption of 435,000 nutrient tons in 1969-70, to 1,275,000 nutrient tons by 1974-75 (Table 4). This will mean a compound growth rate of 24% during the Fourth Plan as against 27% likely to be achieved during the Third Plan.

TABLE 4

Fertilizer Consumption Targets for Fourth Plan

	Nitrogen	Phosphorus	Potash	Total
	—(in thousand nutrient tons)—			
East Province:				
1969-70	95	30	10	135
1974-75	250	165	60	475
West Pakistan:				
1969-70	250	45	5	300
1974-75	536	214	50	800
Total:				
1969-70	345	75	15	435
1974-75	786	379	110	1,275

50. Fertilizer procurement and distribution machinery was streamlined during the Third Plan through the introduction of advance planning for imports in both the provinces and through participation of private firms in distribution in West Pakistan. Although dependence on imported fertilizer is likely to be reduced considerably as a result of commissioning of new fertilizer plants in the country, it would be necessary to continue advance planning (for imports) during the Fourth Plan to eliminate the possibility of fertizlier shortages. A portion of foreign exchange requirements would also be allocated for fertilizer imports from cash resources in the beginning of each year to achieve the desired results. In East Pakistan, serious consideration should be given to distribute fertilizer (also other inputs) through Co-operatives at union level during the Fourth Plan peiod. Extension services and credit facilities will be strengthened and improved in order to promote increased use of fertilizer.

51. In East Pakistan, the proposed rate of acceleration in the use of fertilizer during the Fourth Plan is rather sharper when viewed in the context of the performance during the Third Plan. In order to achieve the set targets, study on an urgent basis will need to be carried out to identify the limiting factors and to sugget ways and means to accelerate fertilizer use in the coming years.

52. Against the consumption target of 234,000 nutrient tons fixed for East Pakistan during Third Plan, the actual consumption would be about 135,000 nutrient tons only. In order to achieve the ambitious target being set for the Fourth Plan, which is necessary for obtaining the necessary growth in agriculture in that province, the existing sale price of fertilizers would be allowed to continue during the Fourth Plan period. However, on the other hand, the use of fertilizer in West Pakistan has progressed satisfactorily during the Third Plan period. This is evident from the fact that against the target of 250,000 nutrient tons fixed for the purpose, consumption during 1969-70 is expected to reach a level of 300,000 nutrient tons. With the proposed expansion of fertilizer use during the Fourth Plan, financial limitations may not permit continuance of existing sale prices of fertilizers in West Pakistan. The availability of cheaper fertilizer, locally produced, will however, help reduce to some extent the subsidy cost involved. It will, however, be necessary to increase the sale price of fertilizers which will be comparatively larger in the case of nitrogenous fertilizer than those of phosphatic and potassic fertilizer. This economic measure in the form of discriminatory price policy will, *inter-alia*, help correct the imbalanced use of the various fertilizers.

53. The cheaper production of locally manufactured fertilizer and the proposed increase in the sale price in West Pakistan will help reduce subsidy costs from the average of 24 per cent during the Third Plan period to the average of 12% during the Fourth Plan period. It should be pointed out that in the final year of the Fourth Plan (*i.e.* 1974-75) the subsidy in West Pakistan would be only about 4 per cent of the total cost.

54. Use of lime in East Pakistan and gypsum in West Pakistan will be encouraged as soil amendment practices for maintenance of soil fertility. Similarly the use of farmyard manure and compost will be encouraged to maintain organic matter in the soils and to prevent depletion of the soil fertility and the water retention capacity. Research on fertilizer use and education of the farmers in its correct use will be intensified. Soil testing facilities will be expanded to prescribe the best suited fertilizers and their dosages for various soil types.

Plant Protection

55. Plant protection programme in contrast to the programmes of other major inputs has remained quite weak in the past. Steps have, therefore, been initiated during the Third Plan to reorganise and streamline this work so as to

make it more effective. For example, advance planning for the import of chemicals from abroad, on the pattern of fertilizer imports, has been initiated. Furthermore, in Wet Pakistan, it has been decided in early 1970 to associate private sector for carrying out ground operations.

56. During the Fourth Plan period advance planning for import of chemicals will be pursued more effectively. A part of foreign exchange requirement will need to be allocated from cash resources in the beginning of each financial year to avoid delays in procurement.

57. The technical, administrative and financial problems likely to arise as a result of association of private sector in carrying out ground operations in West Pakistan was studied in detail by an Inter-Governmental Committee appointed for the purpose. The Committee's recommendations as approved by the Government would be implemented during the Fourth Plan. The working of the private sector would be under constant review and necessary solutions found of the problems likely to arise as the work progresses during the comoing years. It is possible that in East Pakistan the administrative capacity of the Government agencies may put a constraint on the efficient implementation on the proposed expansion of the plant protection coverage. It is, therefore, recommended that the working of the programme should be evaluated during the course of the Fourth Plan, and the private sector as is the case in West Pakistan, should be associated.

58. Institutional arrangements for quality control (which will assume greater importance with the entry of private sector), in-service training to the staff, advice to the domestic industry in setting up manufacturing facilities and survey and warning system for major pests of recurring nature to check their out-breaks, will be provided during the Fourth Plan period. Pesticides Act which is in the process of approval by the Govt. will be put into effect to provide safeguards against possible malpractice in pesticide trade, particularly when work is passed on to the private sector.

59. Ground operation in East Pakistan, are conducted free of any cost while in West Pakistan pesticides and some incidental cost are subsidised to the tune of 75 %. Aerial operations are, however, conducted free of charge in both the provinces. Discontinuance of the free service is desirable from financial as well as administrative points of view. Hence the existing rates of subsidy in both the provinces will be gradually reduced to bring it down to a level of 50% by the final year of the Fourth Plan. Similarly, the subsidy on aerial operations would be brought on the same level as would be prevalent for ground operations in respective provinces. But a system of recovery for aerial operations from beneficiaries would have to be worked out.

60. The area covered by curative measures during 1969-70 is estimated to be 7.80 million acres; 5.24 million acres in East Pakistan and 2.56 million acres in West Pakistan. It is proposed to increase the coverage to 17.25 million acres out of which 8.30 million acres will be in East Pakistan and 8.95 million acres in West Pakistan. These targets in terms of area covered seem rather modest, but nevertheless are realistic when viewed against the proposed reorganisation and streamlining of these operations. In addition, the aim is to provide larger number of sprays per acre on an average than hitherto done to provide effective control as would be demanded by the high yielding new foodgrain varieties and other crops. There is also a need for controlling rats in East Pakistan, and parrots, sparrows and wild bores in West Pakistan to reduce losses occurring from their damage to stored and standing crops.

61. Efficiency of Aerial Wing of the Central Plant Protection Department has lately been improved substentially. Against the average area of 1,100 acres covered

per aircraft per day during 1966-67, the area now reported to be covered comes to 3,500 acres. This organization would be further reorganized and strengthened during the Fourth Plan period to make it more effective and enable it to cover larger area in East Pakistan and for spraying commercial crops like cotton, sugarcane and orchards in the Western wing particularly, in North-West Frontier and Baluchistan provinces. However, it is recognised that due to limited financial allocations available to the Central Government during the Fourth Plan, it would not be possible to expand the aerial plant protection work as being advocated by the sponsoring agency. Under the circumstances, consideration should be given to take up, by the Provincial Governments, as much aerial plant protection work as feasible.

62. Seed treatment against soil and seed borne diseases has remained almost neglected in the past. However, of late, attention is being given to treating all the improved seeds distributed by Government agencies. This work will be vigorously pursued during the Fourth Plan because the cost involved in these operations is quite low as compared to the gains derived from such treatment. Research programmes on pests and diseases will be further strengthened with emphasis on the physio-ecology of the pests and their biological control. Immediate attention will be needed to find cumulative effect of pesticides particularly granular pesticides, the use of which is increasing fast in the country. Satisfactory supply position of spraying equipments to the farmers, which proved to be a limiting factor in expanding the area under plant protection during Third Plan will be ensured during the Fourth Plan period. Repair facilities for spraying machines would also be expanded to achieve the desired results.

Improved Seed

63. The programme for seed multiplication and distribution has no doubt made progress in certain respects in recent years, but the general impression remain that it has suffered from lack of adequate and efficient organisation. Not only there was short-fall in the quantity distributed during the Third Plan against the set target but the quality of the seed was also questionable in some cases, and that the seed was also not made available in time to the growers. Regarding distribution of seed of new high yielding strains of wheat and rice, the contribution of Government agencies remained restricted mainly to the sale of imported seed of these varieties. In order to make this programme effective, it is necessary that the improvement in the organization responsible for seed multiplication and distribution are made at all levels.

64. As a first step the list of approved seeds will need to be reviewed by the committees already existing in both the wings of the country to suggest adjustment wherever necessary. This committee should also review the performance of new varieties before they are brought on the approved list.

65. Improved seeds when grown over a long period of time under ordinary farming conditions without being replaced at intervals deteriorate in quality. This necessitates the replacement of old seed at regular intervals. One of the prerequisite for this, which at present is lacking, is the constant supply of breeder's seeds. It is, therefore, proposed to increase the capacity of the research organisations to produce this seed to ensure their continuous pipeline during the Fourth Plan. Similarly training of the staff engaged in seed multiplication and distribution will be intensified to provide requisite expertise for supervision of seed production operations at foundation and certified level. Necessary facilities and equipments on the seed farms, required to achieve the desired results, will also be provided. Steps will also need be taken to achieve better co-ordination between different organisations engaged in seed multiplication and distribution.

66. In order to keep a check on the quality of seed multiplied at various levels, seed must be tested for certification. But, due to various difficulties the impact of the existing arrangements for the purpose has been rather slow in West Pakistan and practically non-existent in East Pakistan. During the Fourth Plan these facilities will be expanded and streamlined. In fact there is an urgent need of creating an independent, efficient and competent seed certification organizztion, to continuously check the quality of the seed producded and distributed by public and private organisations. However, it would also be necessary for the organisations, engaged in seed multiplication and distribution, to have their own seed testing and certification facilities, so to keep a constant check on the quality of the seed produced and distributed by them.

67. During the Fourth Plan, private sector participation for the production and distribution of seed under the etablished procedures of quality control will be encouraged and programmes will, accordingly, be initiated. It will, however, be necessary to lay down quality standards for different crops for which seed laws, which are under preparation, will be finalised and implemented.

68. Special emphasis would be laid on the production and distribution of high yielding dwarf varietes of rice and wheat with a view to bringing as large an area under these varieties as feasible. Added attention will be paid to the production of seed of cross-pollinated crops like hybrid maize and oil seeds as their seeds are liable to deteriorate very rapidly. Similarly, crops like cotton which face special problems in maintenance of quality will receive special attention. Efforts will also be made to increase production of quality seed of jute, sugarcane, potato, vegetable and ginger in East Pakistan and of vegetables including potato, pulses and sugar-beets in West Pakistan. Special emphasis would be given to the programmes for production of vegetable and potato seeds in Baluchistan and other similar areas which offer a good promise in this regard.

68. The area of principal crops proposed to be covered by improved seeds during Fourth Plan would be :

	Rice	Wheat	Maize	Cotton	Jute	Oilseeds
	in percent					
East Pakistan	30	30	—	—	35	20
West Pakistan	40	65	20	75	—	15

Water

69. Development of water resources, surface as well as sub-surface, has played a vital role in accelerating agriculture growth particularly in West Pakistan. Availability of additional water has helped in extending the area under cultivation, increasing the cropping intensity, improving the land productivity and shifting the cropping pattern from less to high valued crops.

70. In West Pakistan, the surface flow diversion (at canal headworks) has increased by about 6 per cent *i.e.*, from 85 million acre-feet in 1964-65 to 90 million acre-feet in 1969-70. Similarly water supplies from private and public tubewells are expected to reach about 21 million acre-feet by 1969-70 *i.e.*, almost three times as compared to 1964-65. The number of private tubewells has increased rapidly from about 34,000 in 1964-65 to about 79,000 in 1969-70. It has been estimated that as a result of this programme, about 2.7 million acres of new land has been brought under cultivation and about 12.65 million acres of already cultivated area has been improved over the Third Plan period.

71. During the Fourth Plan period, it is expected that roughly another 3 million acre-feet would be added at canal heads in West Pakistan due to operation of links between Indus and Jhelum and storage at Chashma, the enlargement of the existing canals and storage of water at Khanpur and Hub dams. It is further expected that during the Fourth Plan about 6,000 tubewells would be installed in public sector and 30,000 new tubewells in private sector. Thus the ground water availability from private and public tubewells would increase by 2/3 during Fourth Plan from 21 million acre-feet at the end of the Third Plan to 33.5 million acre-feet by 1974-75.

72. During the Fourth Plan 7.5 million acres of already irrigated land will be provided with supplementary irrigation drainage and reclamation facilities. New area of 1.2 million acres will be brought under irrigation.

73. In East Pakistan, irrigation, flood control and drainage programme during the Fourth Plan will be carried out on a larger scale both by EPWAPDA and EPADC. It is envisaged that the number of power pumps will increase from about 18,000 in 1969-70 to 40,000 by the end of the Fourth Plan, when these pumps will irrigate an area of about 2 million acres.

74. Under another programme launched by EPADC, about 1,000 new tubewells would have been commissioned during the Third Plan, and the target for the Fourth Plan is being aimed at about 20,000 deep tubewells to irrigate about one million acres. But the exact number installed would depend on the results of hydrological surveys, and on the speed with which this programme is implemented by EPADC. The performance of this programme would be reviewed and as much fillip as possible would be given so that larger area is brought under controlled irrigation to enable large scale adoption of new IRRI varieties of rice. In addition, other programmes of East Pakistan WAPDA are expected to provide irrigation facilities to an area of about 1.50 million acres, and protect 2.59 million acres through construction of embankments and excavation of drainage channels. For efficient use of irrigation water, the farmers will have to be educated regarding proper water management techniques, adoption of cropping patterns yielding optimum outturns, and development of cooperatives for use of tubewell water.

Mechanisation

75. Farm mechanization helps improve efficiency and reduce drudgery of farm operations, and, under given conditions, also helps improve productivity. With the break through in agriculture sector evidenced during the last few years, the surge for mechanization has increased both in public and private sectors.

76. The statistics regarding the progress made and the targets set for public sector mechanization programmes during the Third Plan are given in Table 5 below except for the land levelling work done in the Ghulam Mohd and Gudu Barrage areas, which is discussed under the Section on Colonization and other project areas.

TABLE 5

Progress made in public sector mechanization programmes during the Third Plan period

Item	Unit	Third Plan Benchmark 1964-65	Third Plan Target 1969-70
East Pakistan			
Pumps used	Number	2,238	18,000
Area irrigated	Thousand acres	131	750
Tractors used	Number	133	100
Area Ploughed	Thousand acres	20	20
Tubewells installed during Plan period ..	Number	—	1,000
West Pakistan			
Wheel type tractors	Number	114	100
Area ploughed	Thousand acres	35	30
Bulldozers used	Number	290	944
Area developed during plan period	Thousand acres	333	1,200
Tubewells drilled by Agri. Department during Plan period	Number	5,660	14,250

77. In East Pakistan the number of low lift pumps, operated by the Agricultural Development Corporation (now handled through Thana Irrigation Project) is expected to increase about eight folds from a level of 2,238 in 1964-65 to 18,000 by 1969-70. This gives an annual growth rate of 52 per cent during the Third Plan period against 14 per cent during the Second Plan. The area irrigated by these pumps is expected to increase from about 130 thousand acres in 1964-65 to about 750 thousand acres by 1969-70 *i.e.*, at par with the Third Plan target.

78. The hydrological surveys so far carried out indicate that about 40 thousand low lift pumps (equivalent to 73 thousand cusec capacity) can eventually be used to irrigate about 2 million acres by 1974-75, provided the pumps are suitably located and are not operated at a given time simultaneously. In order to carry out this large programme, proper administrative organisation and workshop facilities, including on the spot repairs, and facilities for training of farmers in the operation of pumps will be provided to ensure efficiency of operations.

79. The subsidy on pump operations, which at present is about 65 per cent of the cost, will be gradually reduced each year so that it is totally eliminated by the end of the Fourth Plan.

80. In order to increase and stabilise agricultural production particularly through the use of high yielding IRRI varieties of rice water development through installation of tubewells, in the public sector with the participation of private contractors, would be carried out in East Pakistan. The entire cost of the tubewell would be financed through contribution from Rural Works Programme,

with no realisation from farmers. The East Pakistan Government expects to install 20,000 tubewells to irrigate about 1 million acres during the Fourth Plan period, but it is felt that this target would be realised only if underground water sources and administrative capacity justifies the expansion of the programme at this rate.

81. The private sector programme in East Pakistan will mainly cover large scale use of power tillers, fractional pumps (1/4 to 1/2 cusec each) for irrigation and use of other improved implements and tools, which will be made available at reasonable prices and their purchases will be promoted through expansion of credit facilities.

82. In West Pakistan, the Third Plan target of land development (one million acres) as well as the Plan target of drilling over 14 thousand tubewells are likely to be realised. The left-over of the construction of workshops at district/divisional level and the construction of residential accommodation for the staff, where necessary, will be completed during the Fourth Plan period. Furthermore, the available fleet of machinery will be kept in efficient use through timely replacement and supply of spare parts, for which purpose foreign exchange will be provided on a priority basis during the Fourth Plan. It is estimated that about 1.8 million acres of land would be developed and about 17 thousand tubewells will be drilled by the Provincial Agriculture Department during the Plan period.

83. With the construction of dams, land along the rivers will be relcased as water level will stand reduced. Such land will have great potentialities or agricultural purposes. As such this land will be brought under cultivation to raise crops and wherever required, machinery will be used for the purpose. As an incentive subsidy will be given to farmers installing diesel/kerosene engine driven tubewells and the necessary additional drilling facilities will be provided, as an indeucement, to increase tubewell installation in these areas as well as in other area where sweet under-ground water is found to be available in adequate quantities.

84. The Fourth Plan will encourage expansion of farm mechanisation in private sector. It would, however, not be desirable to spread the limited financial resources on a wide range of programmes. Farm mechanisaion will, therefore, be extended in selected fields and for selected operations which will not replace labour and which would stand the test of rational economic criterion of expected cost-benefit ratio.

85. In order to harness the present enthusiasm of farmers for adoption of farm mechanisation and to handle bumper crops (like wheat crops harvested in 1967-68 and 1968-69), the Government provided facilities to local private firms for manufacture of threshers for sale to farmers. In addition, the Government has also allowed the import of combined harvester-thresher machines by private enterprise, so that the crops could be harvested and threshed promptly to allow more intensive cropping and to avoid wastages. Further expansion of the programme for large scale use of harvesting and threshing machinery will depend on the economic feasibility of the machines made available during the Third Plan and their impact on replacement of labour. Studies on economic feasibility of formation of tractor pools through cooperatives, agriculture department, and commercial organisations, as a means of inducing the smaller farmers to adopt improved farm practices, deserve consideration. It is desirable to set up one or more factories in private sector for manufacture of standardised bullock drawn implements.

86. For adoption of farm mechanization on an increasing scale, it is necessary to provide suitable institutional set up. Facilities for training of mechanics,

drivers and drillers were provided at four centres in West Pakistan during the Third Plan period. This programme will be expanded during the Fourth Plan to provide one or more centres in each division, depending on requirements. Facilities will also be provided for training of farmers in the operation of tractors.

87. Practically no research is being carried out in the field of farm mechanisation (including its impact on socio-economic conditions), except some work under-way at Lyallpur. With the increasing tempo in mechanisation, research on regional basis will receive due emphasis during the Fourth Plan.

88. At present there is a discernible surge for farm mechanisation, both in public and private sectors. The role of mechanisation and the problems involved have been examined by the Farm Mechanization Committee for West Pakistan which was set up in September, 1968 by the Central Government. Its recommendations still pending with the Government for decision. A similar Committee for East Pakistan has been set up. The findings of these committees will help formulate programmes and policies for farm mechanisation during the Fourth and the subsequent plan periods. Block provisions are made in the Plan for implementing the decision taken by the Government on the recommendations of these Committees.

Colonization and other project areas

89. The approved scheme for the Thal Development Project was completed during the Third Plan period. Almost the entire area (comprising about 2.4 million acres) located in the Ghulam Mohammad Barrage for which irrigation facilities were made available, was released for cultivation. About 2.8 million acres were released in Phase-I of the Gudu Barrage project while 250 thousand acres of the total of about 500 thousand acres of Phase-II (Pat Feeder Area) are expected to have been released in 1968-69, and the balance is to be released in 1969-70 and 1970-71. About 200 thousand acres will be developed in Pat Feeder area during the Fourth Plan.

90. Of the total area of 875 thousand acres in the Ghulam Mohammad and the Gudu Barrage areas, which needed development with heavy machinery, about 500 thousand acres would be developed by the end of the Third Plan for bringing it under cultivation (*See* Table-6).

TABLE 6

Target of land development and area developed in Gudu and Ghulam Mohammad Barrages during the Third Plan

Particulars	Guddu Barrage	Ghulam Mohd. Barrage	Total
	—(thousand acres)—		
Target of total area requiring Development	375	500	875
Area Developed during Second Plan	10	200	210
Third Plan target of land Development	365	285	650
Area likely to be developed during Third Plan	160	140	300
	—(percent)—		
Likely achievements in Third Plan	44	49	46

The main reasons for the slow progress are : (i) the tractors worked for a lesser time during a year, and (ii) the time required to develop an acre was longer than that envisaged when the scheme was formulated. This has increased the cost of land development in these project areas. The economics of developing the land at this cost needs a careful study and the feasibility of developing the remaining areas needs to be worked out on a more realistic basis.

91. In East Pakistan, little progress, besides the survey of the area and preliminary works, was made during the Third Plan under the project for the Development of Chittagong Hill Tracts. Projects based on the Survey Report prepared by a foreign consulting firm and the Master Plan prepared by EPADC, after due approval, will be executed during the Fourth Plan period.

92. Survey work for development of agricultural estates around Rawalpindi/Islamabad, Lahore and Karachi has been carried out during the Third Plan period in order to prepare programmes for increased production of vegetables, fruits, dairy products, meat and eggs. The project for Rawalpindi/Islamabad will mainly concentrate on increasing production and conservation of milk and milk-products for consumption in the twin cities. After observing the performance of the programme at Lahore, the programme will not be continued during the Fourth Plan period. Survey work conducted in connection with the development of Agricultural Estate around Karachi will be consolidated and work started on the project depending on the progress made in the construction of Hub Irrigation Project.

93. In East Pakistan, the work on Agricultural Development Estate at Dacca was started in 1966-67 while the work on the other three estates at Chittagong, Rajshahi and Khulna is currently taken in hand. During the Fourth Plan this work will be accelerated and new projects, if the progress of the work of the ongoing projects shows promising results, would be started.

94. Allocation has been made in the Plan for conducting surveys, investigations, and feasibility studies for establishing new projects aiming at augmenting agricultural production in the country.

Soil Surveys

95. The Soil Survey Project of Pakistan which commenced in the beginning of the Second Plan, aims at conducting systematic and basic soil survey for general purpose at reconniassance level. This programme will be continued and expanded during the Fourth Plan period. Based on the results of reconniassance survey, programme for conducting detailed surveys for specific purposes in specified areas will be initiated.

96. Valuable data regarding the crop and soil responses to the use of fertilizers have been collected under the "Rapid Soil Fertility Survey Scheme" which is in operation in both the provinces since 1957-58. During the Fourth Plan period, this programme will be reorganised, strengthened and expanded to determine the response of different straight and mixed fertilizers to the new high yielding varieties of rice, wheat and maize; in addition comparativ ecoonomics of various fertilizers and their long term effect on the soils would be determined. Data collected under the project need to be analysed, particularly in West Pakistan, by competent persons, for taking future policy decisions in the use of fertilizers.

Soil Conservation and Watershed Management

Soil Conservation

97. During the First and Second Plan periods, suitable soil conservation measures and practices were developed and demonstrated to farmers through

demonstration areas set up for the purpose in the Western Wing, where soil erosion problem is quite serions. The targets and estimated achievements under this sub-sector during the Third Five Year Plan are as folluew :

	Target	Likely achievement
	——(thousand acres)——	
Area Improved	1,983	195
Area Developed for bultivation*	300	130

98. One of the main bottlenecks responsible for such a slow progress has been the non-availability of machinery and equipment, particularly in the initial stages of implementation of the programm coupled with the inadquacy of necessary staff. As these bottlenecks have been removed to some extent, the programme during the Fourth Plan period will be expanded. The progress will be periodically reviewed and impediments, if any, in the smooth running of the programme will be removed. Survey will be under-taken to prepare systematic soil conservation programmes on catchment or sub-catchment areas taking into account soil type, land capability, land use, social conditions, pattern of land ownership, tenancy status and climatic conditions etc. Legislative measures, wherever necessary (as for consolidation of holdings) to help implement the programme effectively need to be seriously considered and undertaken. A properly executed soil conservation programme will especially benefit the farmers in the non-irrigated areas, who have not yet reaped the fruits of the new farming technology.

99. Creation of an independent soil conservation service within the Agriculture Departments of the concerned provinces in the We tern Wing is strongly recommended for implementing an effective and sound soil conservation programme. This organisation should comprise the various relevant disciplines like forestry, agronomy, animal husbandry, cooperatives etc., and should provide salary scales and other amenities at par with other similar services. Creation of such a service was strongly recommended in the Third Five-Year Plan also but so far it has remained unimplemented. Difficulties, therefore, continue to be faced in running such an essential and huge programme with personnel borrowed from other directorates.

100. Soil conservation programme will be further intensified in the Western Wing during the Fourth Plan period, particularly in the Punjab, Baluchistan and N.W.F. provinces. While the ongoing programmes will be expanded, new programmes will also be started in suitable areas. There is however, a need for better coordination between A. D.C., WAPDA and soil Conservation Directorate for the programmes being implemented by them.

101. In East Pakistan, the normal routine, on-going work will continue during the Fourth Plan while Azad Kashmir will undertake a modest soil conservation programme in addition to the one being implemented by WAPDA in their territory.

Watershed Management

102. To save and to extend the life of various costly dams, an extensive and effective watershed management programme is absolutely necessary. The forthcoming recommendations of the US Watershed Management team which visited

West Pakistan will help in preparing a systematic watershed management programme. While the past work in this field needs to be evaluated, work will have to be extended to Tarbela and other critical sediment areas, in addition to expanding the work in the areas now being treated. Such a programme should be based on systematic land-use and other surveys.

103. The suggested agency for soil conservation should also undertake watershed management work.

PART-II SUB-SECTORS OTHER THAN CROP PRODUCTION

Animal Husbandry

104. Development programme in animal husbandry progressed rather slowly during the Third Plan period with the result that only about 45 percent of the total allocation of Rs. 148 million is expected to be utilized. The main reasons for the low utilization were the lack of financial resources, delay in the formulation and sanctioning of schemes, lack of staff and foreign exchange.

105. Reliable data on livestock and livestock products are grossly lacking. A crude exercise carried out shows (Table-7) that whereas livestock number has shown some increases, livestock products have not shown any significant improvement during the Third Plan. In many cases the annual growth rate has been lower than the population increases which resulted in the general increase of prices of these commodities. This situation is rather alarming and is strongly suggestive of the need to provide more attention to this sub-sector in the Fourth and following Plan periods. The Fourth Plan, therefore, accords priority to programmes relating to the improvement of livestock and increased availability of livestock products including poultry meat and eggs. This will help bring down relative prices of these items of food and improve the diet of the people.

TABLE-7

Growth of livestock products during the Third Plan 1964-65 *to* 1969-70

Live tock products	East Pakistan	West Pakistan	Total
		—(in per cent)—	
Milk	10.4	9.5	9.5
Meat	9.9	8.7	9.2
Egg	(—)2.3	25.8	12.9
Hides & Skins	14.3	10.3	11.7
Wool	Neg.	11.9	11.9

Breeding

106. To evolve specific better breeds for production of milk, meat and for draught purposes, two cattle breeding farms in East and six farms in the Western Wing will have been developed or, strengthened by the end of Third Plan. This programme, during the Fourth Plan, will be further expanded to up-grade the quality of stock. Two new farms with the object of developing a dual purpose breed (for milk and draught) will be established, one at Rajshahi and the other

either at Khulna or at Chittagong. Cows of high yielding breed, particularly those imported from Australia, will be acclimatised and tested under West Pakistan conditions for dairy purposes; such exotic breeds will also be cross bred with local ones to evolve new breeds with high milk yield potential. Similarly, water buffaloes can be imported from South East Asia for improving the buffaloes stock in East Pakistan either through direct introduction after due acclimatization and, or, by cross breeding them with local ones.

107. As a result of Land Reforms Programme in West Pakistan, land grants were allowed to big land owners for livestock breeding; but according to some reports this programme had not been functioning satisfactorily to meet the desired objectives. The Agriculture Advisory Panel has suggested that the Ministry of Agriculture in consultation with the Provincial Government, should therefore evaluate, if not already done, the working of this programme and suggest improvement for meeting the desired objectives.

108. Systematic programmes to help improve livestock including poultry in the rural areas, will be taken up in blocks consisting of a number of contiguous villages. These villages will be provided with better stud stock and 3 to 4 month old chicks of improved breeds for breeding purposes. In order to encourage the breeders, prizes should be awarded to breeders who have endeavoured to keep better and improved livestock and poultry birds.

109. To upgrade the local stock, artificial insemination work has been expanded during the Third Plan period so much so that 11 out of 17 districts in the Eastern Province will each have an artificial insemination centre while 10 centres and 8 sub-centres will be functioning by 1969-70 in the Western Wing. The results achieved so far are encouraging but an evaluation of the programme to improve it further should be urgently carried out by the Ministry of Agriculture in consultation with the Provincial Government. Subject to the recommendations resulting from the evaluation report the artificial insemination work will receive high priority in both the wings of the country for the improvement of livestock. In order that the programme moves forward at a stipulated speed, better trained staff with improved facilities will be provided so that the breeders are taught about the usefulness of the programme.

110. Liquid nitrogen plants will be set up in both the wings for preservation of semen. If needed, help from outside country where such programmes have progressed well would be obtained.

111. In order to improve breeding of sheep, goat and poultry, farms for the purpose would be set up in East Pakistan while a sheep farm at Quetta in Baluchistan would also be established.

Disease Control

112. Contagious and other diseases are greatly responsible for high mortality, low vitality and low yields. For the prevention of these diseases through inoculation and to carry out curative measures as and when required, about 872 veterinary graduates and 2,500 stock assistants in the Western Wing and 211 veterinary graduates and 411 thana livestock assistants in the Eastern Province will have been appointed by the end of Third Plan period and provided with necessary equipment for their effective working. During the Fourth Plan additional vaccinators, stock assistants and veterinary graduates in East Pakistan and stock assistants in West Pakistan will be appointed. In order to improve the static facilities both for curative and preventive measures, about 600 more hospitals/dispensaries will be provided with veterinary assistant surgeons in addition to about 400 already provided by the end of the Third Plan in the Western province.

In East Pakistan, the number of hospitals and dispensaries will rise to 54 and 260 respectively, while in West Pakistan the corresponding figure would be 397 and 553. During the Fourth Plan, facilities at thana dispensaries will be expanded in East Pakistan under the programme initiated in the Third Plan while some district council hospitals will be provided with proper facilities to make them more useful and effective to stock holders. In addition, more hospitals at sub-divisional headquarters will be provided with adidtional facilities and new veterinary aid centres will be established at important union headquarters in East Pakistan. In West Pakistan selected local council hospitals and dispensaries will be taken over by the Government and provided with improved facilities, in addition to the setting up of 50 new hospitals and dispensaries.

113. In Western Wing, stock assistants were appointed in each union during the last decade mainly for preventive work against infectious diseases. The programme after a good start has, as reported by the Provincial Government, run into difficulties thus reducing the effect on the control of diseases particularly those of preventive nature. The Provincial Government feel that these stock assistants should be shifted to work at the nearest dispensary/hospital and should be under the direct supervision of the veterinary assistant surgeon incharge of the dispensary/ hospital. These assistant surgeons should then be made responsible for protective and prophylactic work in specified areas in the tehsil. Such an administrative and organizational change should only be brought about after proper evaluation of the existing arrangements and careful consideration of the suggested changed programme.

114. In order to have more accurate record, if not for other reasons, a nominal fee of 10 paisas per animal treated should be charged for minor ailments; for the major ailments, the medicines should be prescribed by the veterinary assistant surgeons free of charge to stock owners but they should buy the same from the the market at their own cost.

115. At present there are 2 diagnostic laboratories in East Pakistan and 5 in the Western Wing: to make disease control programme more effective such laboratories will, to begin with, be set up in important districts during the Fourth Plan and the existing ones improved, wherever considered ncecessary.

Education and Research

116. The West Pakistan Livestock Production Research Institute at Bahadurnagar and Veterinary Research Institute at Lahore, set up and expanded during the previous Plan periods, have concentrated their activities mostly on breeding of livestock and research on foot and mouth diseases respectively. The facilities available at these stations will be strengthened and improved during the Fourth Plan period. A Research Institute for disease control and for production of biological products to be set up during the Third Plan in East Pakistan will now be set up during the Fourth Plan. The work on livestock breeding being carried out at Savar farm (East Pakistan) during the last decade will be further improved and strengthened during the Fourth Plan period.

117. In the past sufficient attention has not been paid to the improvement of goat and sheep in the country. It might pay dividends if some exotic breeds of these caprine are tried locally in both the provinces through acclimatisation and cross breeding programmes. There is also need for more research on poultry. " Sliver—Grey " breed of poultry evolved at Agricultural University, Lyalipur should be introducded in the rural areas only after the results of this breed are fully appraised and found desirable. In order to further improve the facilities, the work carried out at the veterinary research and Biological product loboratories at Comilla and Dacca should be evaluated by the Ministry of Agricuiture.

118. Economic studies on various aspects of animal husbandry will be carried out and other information collected on important problems relating to livestock industry. For determining livestock population and obtain data regarding livestock products, livestock census would be carried out in both the provinces. This will provide better base for future planning and development programmes.

119. At present, the facilities available for teaching animal husbandry and veterinary students are under-utilized because the demand for graduates is said to be insufficient. But it is also reported that there are a large number of posts which are laying vacant because the pay scales and other employment opportunities are not attractive. A factual sudy is warranted to remedy the situation. A new Animal Husbandary College in the northern part of East Pakistan is suggested to be established during the Fourth Plan.

120. The facilitities at the Animal Husbandry College, Lahore will be expanded to accommodate larger number of students and to improve educational facilities to produce better quality students. There seems a need for setting up an Animal Husbandry College at Tandojam (Sind). To meet the need for the provinces of Baluchistan and North West Frontier, adequate seats would be reserved at the college of Animal Husbandry at Lahore or at the Agricultural University, Lyallpur. In order to give pre-service and in service training to Stock Assistants in West Pakistan and Thana Livestock Assistants and Veterinary officers in East Pakistan, the Provincial Government will work out details of their needs to determine the additional facilities needed for the purpose.

121. Education and training in dairy technology may be provided locally and abroad to meet the requirements of dairy industry in the country.

Commercial Schemes

122. *Dairying.*—Milk Supply schemes in Karachi and Lahore came into operation ; the former in the Second Plan and the latter during the Third Plan period. The Karachi milk supply scheme has been continuously facing difficulties with regard to the collection of fresh milk while the Lahore scheme is relatively progressing satisfactorily. During the Fourth Plan a dairy plant at Islamabad will be set up while a similar programme will be considered for Dacca and Hyderabad. Dairy farmers would be given all feasible incentives and encouragements for larger production of milk in East Pakistan.

123. In pursuance of the policy of greater diversification in agriculture so as to put larger areas under forage crops and to carry-out farm mechanisation programme, particularly with the objective of replacement of bullock power, more emphasis will be given to keeping dairy cattle in the rural areas particularly around cities and towns to provide milk at prices remunerative to the farmers. In the interior of rural areas, however, wherever, milk pockets, exist or can be developed, better facilities would be provided to the private sector investors for the transportation of milk to deficit areas or setting up milk processing industry like dried or condensed milk. These products can be re-processed by setting up small industries in acute milk shortage areas to meet their demand. A *lassi* (butter milk) plant may be considered for setting up in Lahore.

124. Government's participation in certain ventures like an abattoir scheme and in a milk plant have turned out to be in-effiecetive, wasteful and proved in-efficient. It is recommended that working of these projects be evaluated by the Ministry of Agriculture to suggest improvements for the development of similar programmes in the future.

125. *Meat and Egg Production.*—The existing poultry farms functioning elow commercial level will be improved and duck farming would be encouraged, wherever feasible in both the Provinces. Consideration will be given to develop beef cattle and sheep on range areas in the Western Province and, if found feasible, in the Eastern Province also. Private sector will be encouraged in these fields of development through various incentives, as found necessary and practical. For eample, incubators, brooders, wire netting and chicks can be provided at subsidised costs to the breeders. Tax holiday that existed until recently for broiler and poultry production should be allowed to continue for the Fourth Plan also.

126. *Feeds and Feeding.*—During the previous two Plan periods, three feed mills were set up in the private sector in West Pakistan and one in the public sector in East Pakistan. During the Fourth Plan, encouragement will be given to expand this programme in the private sector particularly in the vicinity of selected sugar, rice and oil mills in both the provinces so that by-products from these mills could be used as raw materials for the manufacture of feeding stuff. Consideration will be given to establishing one feed mill in the public sector in East Pakistan if private sector remain shy. The question of subsidising feed for livestock owners and broiler industry as an inducement to develop these industries should be considered.

127. Effort should be made to increase fodder production through introduction of high yielding varieties, use of fertilizer and improved cultural practices.

128. The export of feed oil cakes, which can be profitably consumed within the country, should be discouraged while the import of feed ingredients (like vitamins) may have to be liberalised to provide balanced feed in large quantities.

Others

129. It is considered necessary to review the employment problem of livestock graduates who, due to comparatively poor status, are looked down by the society. Some remedial measures seem necessary.

130. Currently, the Animal Husbandry directorate of East Pakistan is one composite whole which permits the movement of officers from veterinary research to livestock production research and to extension work. This system does not seem quite conducive to the promotion of specialised activities. It may therefore, be advisable to have separate branches and sub-cadres for veterinary research, livestock production research and extension within the Animal Husbandry Directorate. The *inter-se*-movement of staff in these sub-cadres and branches should be restricted, if not stopped, and each discipline should be headed by a competent senior officer. The need for better and effective coordintion between research, extension and education also needs urgent attention.

Range Management

131. Because of low rainfall and lack of adequate irrigation facilities, range lands exist mainly in the Western Wing. During previous Plan periods, considerable progress has been made in evolving practices and techniques for improving and rehabilitating range lands in the Province. The Third Plan envisaged to cover about 4.2 million acres of range land but less than fifty percent of this target is likely to be attained mainly because of lower financial allocations and partly for lack of technical personnel. The efforts made in the past to develop and improve range areas have not been adequately linked with the rearing of livestock. Since the primary objective of range development is to improve livestock industry, it is necessary that all range management programmes should be oriented

towards livestock production. The range management programme carried out so far needs to be evaluated in order to prepare a comprehensive action programme for production of livestock on range lands. The services of experts may be obtained from some international organisation like FAO for this purpose.

132. Scrub forests in the sub-mountainous areas and alpine pastures have not received proper attention in the past. Such areas should be worked on the principle of multiple use combining grazing and wood production. Development of these areas located in the districts of Sargodha, Gujrat, Jhelum, Rawalpindi and Hazara need to be initiated on the above principle.

133. Comprehensive surveys of range areas should be undertaken to determine their potential by taking into account such factors as soil, climate, availability of drinking water social and other similar conditions. Such surveys should precede formulation of detailed grazing plans for livestock rearing.

134. Creation of an independent Range Management Service within the Agriculture Departments is essential if the development is to proceed successfully. Such a service should bring under one umbrella the various relevant disciplines (like forestry, animal health, animal breeding, agronomy, cooperaives, hyderology, etc.). Facilities need to be provided to range management staff to compensate them for hard conditions they work under.

135. The Provincial Governments should give serious consideration to the development of range lands by private parties in such areas as Cholistan, Tharparkar, Quetta and Kalat. These range lands may be given to the interested private parties on long leases and the lessees should be provided incentives to develop the range lands. These incentives could include subsidies on coast of range improvement operations such as development of water points. Technical advice on range development and liberal facilities for care of the range animals should also be provided to the private parties.

Forestry

136. The existing forest area of the country is inadequate to meet the growing requirements of timber and firewood. The gap between demand and domestic supply of wood is widening every year due to increase in population and expansion of industries *vis-a-vis* domestic wood production. The annual imports of wood and wood products have increased from about Rs. 40 million at the end of the Second Plan to about Rs. 130 million in recent years. With the meagreness of the existing forest resources and the probable increase in wood requirements in future years, the need for imports is likely to increase still further. In order to reduce dependence on imports in future, the existing forest resources should be exploited to the optimum. Hence, the Fourth Plan accords high priority to the exploitation and management of such forest areas as are located in Dir, Chitral and Kalam in West Pakistan some of which have hitherto remained almost unexploited. The Aerial Forest Inventory Scheme covering these areas will help in preparing management and extraction plans during the Fourth Plan. Similarly, the timber textraction progamme in the Chittagong Hill Tracts will be further expanded for the same purpose. Furthermore, a policy to manage and exploit some of the main species on short rotation basis will be followed particularly in West Pakistan. Emphasis wil also be placed on afforesatation and regeneration programme in an effort to meet timber and firewood needs from domestic resources in the long run.

Extraction and utilization

137. The Third Plan envisged extraction of 45,000 tons of timber by 1969-70 from Chittagong Hill Tracts. But due largely to non-availability of equipment

in the initial years, the progress remained slow, although it has improved lately. During 1968-69, 28,000 tons of timber was extracted against the target of 30,000 tons, and with the expected availability of equipment under the Yuguslav Credit agreement, it may be possible to reach the target level of about 45,000 tons in 1969-70. During the Fourth Plan, the programme of extraction will be expanded to areas hitherto not covered after evaluating the existing projects, in order to help smooth and efficient implementation of the programme. As the public sector programme has not progressed well in the past, it is desirable to try to associate private enterprise in such a venture. For this purpose, private parties should be associated in the timber extraction programme of the East Pakistan Forest Industries Development Corporation in the Chittagong Hill Tracts. It may also well be that under bilateral agreements, some industrialised countries could be associated with the timber extraction programmes in the potential areas of Chittagong Hill Tracts. This should help overcome some of the foreign exchange problems faced in the successful implementation of such a programme.

138. For West Pakistan, the provision for timber extraction and utilization was made for the Dir and Azad Kashmir forestry complexes under the Industries Sector in the Third Plan. The same arrangements will be followed for the Fourth Plan. But it is essential to prepare and implement simultaneously a comprehensive regeneration programme in conjunction with the exploitation schedule under these complexes. Where feasible, timber extraction programme of West Pakistan should be mechanised. Wood-based industries should be encouraged for the benefit of the people living in and around the forest areas.

139. The estimated production of timber and firewood from Government forests in 1964-65 and 1969-70 is given in Table 8.

TABLE 8

Estimated Production of timber and firewood' by Provinces, 1964-65 and 1969-70

	1964-65	1969-70	Increase
	In million cft.		Per cent
Timber			
East Pakistan	24.25	31.20	29
West Pakistan	13.20 •	15.00 ••	14
Firewood			
East Pakistan .. —	34.50	46.00	33
West Pakistan	24.55	35.00	43

• For 1965. •• For 1970.

Regeneration and Afforestation

140. The Third Plan envisged afforestation over 80 thousand acres, regeneration over 42 thousand acres and rubber plantation over 10,000 acres in East-Pakistan. It is expected that by June, 1970, 29,000 acres will be afforested and 42,800 acres will be regenerated while new rubber plantation will cover about 7,000 acres. The short falls in achievements are largely because of lower provision of funds made in the Annual Plans.

141. For West Pakistan, likely achievement for the programmes for irrigated plantation, canalside, roadside, riverine and hillside plantations is also expected to be below the set targets of the Third Plan (Table 9).

TABLE 9

Third Plan Targets and likely achievements of linear and other plantations in West Pakistan by 1969-70

Item	Unit	Target	Likely achievement by 1969-70
Irrigated plantation	000 acres	82	17.5
Canalside plantation	000 avenue miles	15 45	7 17
Roadside plantation	Do. 000 avenue miles	3.8 12.6	2 4
Railway side plantation	000 avenue miles	6 36	1 5.3
Riverine and Hill Plantation	000 acres	275	79

These short falls are attributed (i) to paucity of funds, (ii) the relevant schemes could not be got approved on schedule, and (iii) unsatisfactory performance of previous work carried out in G. M. Barrage area which did not permit larger expansion of irrigated plantation.

142. In order to increase the forest area, emphasis during the Fourth Plan will continue on extensive afforestation and regeneration work. Linear plantation (canal, road and railway-side) will be expanded in West Pakistan. As far as practical, linear planting in West Pakistan should be under taken through private parties by aucitioning planting strips. This will not only reduce the planting and maintenance costs but will also minimise forest protection problems, in addition to creating more job opportunities. As large areas will be exploited during the Fourth Plan, the corresponding regeneration of the cut-overareas should be mandatory within the minimum time which must be specified and strictly adhered to. Quick growing species will, as far as possible, be planted to obtain yields in the short run.

143. In the rural areas, farm forestry will be encouraged through educational campaigns and supply of seedlings free of cost or at subsidised rates. The Government should provide other suitable incentives for such a programme. The Forest Departments should make necessary arrangments for raising of seedlings. The existing agricultural extension staff should be trained and utilized for educating the farmers and for distribution of seedlings.

144. Establishment of windbreaks and shelterbelts for protection of agricultural crops is necessary in such areas as Thal and Sind. The Provincial Governments should make a study of need for such plantings and prepare feasible programmes.

145. Afforestation of the riverine areas should be expanded, as large areas in the riverine belts are expected to become available in the Western Wing after the construction of several dams.

146. Where possible, waste lands should be given to privte parties on long leases for afforestation purposes.

147. The Provincial and Central Governments should undertake evaluation and study of problems of afforestation in the irrigation areas. The bottlenecks faced so far should be removed and the planting programme should be accelerated in all regions. Also, the Provincial Governments should study the problems of afforestation in the rainfed areas and prepare planting programmes in the light of past experience and should base such programmes on feasibility studies. Afforestation of the 'guazara' (community' forests should be undertaken and due attention should be paid to forest conservation in the Chittagong Hill Tracts and parts of Sylhet district. A programme of road-side planting should be started in East Pakistan, wherever feasible.

Forest Management and Improvement Operations

148. Expanded exploitation programme will necessitate development of communication and other infra-structure facilities including construction of buildings, fire protection measures, inventory surveys, etc. Such a programme has been in operation since the First Plan and will be expanded during the Fourth Plan in both theWings to further make timber management and extractions efficient and intensive. Revision of working plans will be necessitated in view of changed management objectives based on shorter rotations and raising of quick growing species.

149. Evaluation of personnel requirements of Forest Departments, in both the Wings of the country needs to be undertaken to assess whether the staff now in position is inadequate or in excess of the requirements. Upon such an evaluation will depend the programme for reorientation or otherwise of the training institutes particularly of Pakistan Forest Institute, Peshawar for optimum use of the established facilities.

150. Pay scales of the forest staff, particularly at the ranger and the lower levels should be uniform within the various provinces and at par with the corresponding staff of other departments.

151. The Agricultural Advisory Panel had noted that the personnel of the Forest Department who receive specialised training (range management, wildlife management, waterhshed management etc.) were not always being utilized in their fields of specialisation. This situation therefore needs rectification for proper utilization of the human resources.

Forest Education and Research

152. Facilities for training of forestry personnel at the Pakistan Forest Institute, Peshawar, Forest Ranger Collge, Chittagong, and Forest School, Sylhet were expanded during the Third Plan period and earlier. Similarly, facilities for carrying out research in various fields of forestry and forest products at the Peshawar and Chittagong Institutes were expanded during the previous Plan periods. During the Fourth Plan, priority will be given to consolidate the results of research carried out so far and to initiate or expand research particularly on quick growing species, adoption of exotic species, and watershed management. Work in the field of forest economics and collection of reliable forestry data on a continuing basis needs to be expanded. Work will have to be undertaken to develop efficient utilization of wood with minimum waste and uses of wood waste will have to be developed.

153. The Pakistan Forest Institute, Peshawar and the Pakistan Forest Research Laboratory (now Institute), Chittagong were transferred from the Central Government to the Provin ial Government in 1955. So far, by and large, these Institutes have been manned by officers deputed from the Forest Departments

who largely prefer field jobs to work in such institutes. These officers are, therefore, keen to revert to their parent departments and, reluctant to accumulate knowledge and experience in education and research. Perhaps the creation of a separate cadre for these fields may be useful or, alternately, incentives in the form of special pay etc. should be provided to personnel employed at these institutes in order to motivate them to continue in their jobs.

Forest recreation

154. The Government set up a Wildlife Enquiry Committee in 1968 for recommending a suitable programme for preservation of wildlife and development of national parks. The recommendations of this Committee will be implemented during the Fourth Plan period.

Fisheries

155. The average diet of a Pakistani is deficient in protein content espeically that from animal sources and fish is an important source of animal protein. Fish has also assumed importance because of its contribution to foreign exchange earnings. The country has vast fisheries resources which have so far been only partially exploited.

156. With the basis laid down during First and Second Plan, an accelerated growth rate of fish production was contemplated during the Third Plan but fish production, according to reported figures, increased only by 7 per cent between 1964 and 1969 (Table 10), which is less than half the population growth during the same period. This increase in fish production has been mostly from the marine warters of West Pakistan where during the five year period, (1964—69), the production rose by about 50 per cent compared to an increase of only 1 per cent in East Pakistan.

TABLE 10

Fish Production during 1964 and 1969

	Fish Production 1964—1969		Increase in 1969 over 1964
	'000' *metric tons*		*Per cent*
East Pakistan (a)	818	828	1
Inland	735	741	1
Marine	83	87	5
West Pkistan	113 (b)	178 (b)	58
Inland	21	28	33
Marine	92	150	63
All Pakistan	931	1006	8
Inland	756	769	2
Marine	175	237	35

(*a*) Figures as suppl ed by the East Pakistan Government. The Planning Commission, however, feels that the increase in fish production during the Third Plan has been much higher than that reported by the East Pakistan Government.

(*b*) Marine Fisheries Department, Ministry of Agriculture and Works, of Government of Pakistan.

This increase of one percent in East Pakistan is insignificant when compared with the investments made during the Third Paln and is also much below the

population growth. The East Pakitan Government attributes this poor performance to significant depletion of fish habitat resulting from implementation of projects for increased cereal production, over exploitation of fisheries, increased use of pesticides and insecticides which destroy fish in the fileds and so on. These problems need careful study so that the factors responsible for this depletion are analysed and removed as early as possible. The production increases during the Third Plan as reported by the East Pakistan Government, however, needs to be looked into carefully by a Committee of experts so that better and sound programmes for future development are formulated.

157. The target of fish production for the Fourth Plan will depend on the level of internal consumption and exports, allowing some quantity for wastage of fish to be used as industrial raw-mterial. With the programmes carried out so far to build up infra-structure and to develop fisheries resources, it should be possible to project an accelerated rate of growth in fish production during Fourth Plan but the actual target will be determined only when detailed programmes become available. Whatever targets are determined, the Fourth Plan programme will, by and large, be an expansion of the activities carried out during the Third Plan. Exploitation of fisheries resources will be left largely to the private sector, while public sector will mostly confine itself to undertaking of surveys, research and provision of training and improved marketing and other facilities. The details of programme for the Fourth Plan are discussed in the succeeding paragraphs.

Dev lopment and Conservation

158. The major activities undertaken for inland fisheries development during the Third Plan in East Pakistan include reclamation of derelict water areas and bringing them under fish culture, establishment of fish seed farms and nurseries, and exploitation of tanks, ponds and other impounded waters such as *beels*, *haor* and *boar* areas. A number of water areas were declared as sanacnries for conservation of fish. Most of these activities will be taken up on a larger scale during the Fourth Plan, with emphasis on achieving optimum yield from water areas already developed or to be developed, since fish yields at present are much below the optimum levels from the areas already development. Priority, however, will need to be given to the use of scientific methods for fish culture in ponds, tanks, etc. and supply of quality fry and fingerlings for stocking purposes as these areas have great potentiatlities for fish development. Fisheries extension activites, to educate the pisciculturists in improved methods of fish culture, will also be suit-suitable intensified.

159. The reclaimed water areas have suffered set backs because such areas, after development over a period of three years, were usually returned to the Revenue Department, who in turn, leased them out to private parties. The lesseees exploited these to the maximum without paying much attnoenti to stocking or obtaining optimum yields therefrom. During Third Plan period, the Directorate of Fisheries undertook a scheme under which the derelict water areas would be developed and managed for 10 years to produce maximum sustainable yield in fish. Its achievement, however, will need to be evaluated befre further promoting to such programmes on a wider scale during the Fourth Plan.

160. There is considerable over fishing going on at present in the open fisheries as a result of which fish stock is being depleted. If this process is allowed to continue, it might result in the extinction of certain species. A pilot project for biolgical management of fisheries will be introduced during Fourth Plan to acquire knowledge of the factors responsible for the decrease in fish catc and to gain exprience for better management of the fisheries.

161. The major activities for development of fish in inland waters in West Pakistan comprised of extensive fish cultivation in lakes and dams (such as Mangla, Warsak, Baran dams and Manchar and Kalri lakes), reserviours and abandoned canals and stocking these water areas with fast growing species of fish. During the Fourth Plan, these programmes for the development of fisheries would be further intensified and pursued more vigorously than before so as to achieve optimum yields. These water areas, (dams, lakes, etc.) will, however, require constant stocking with fry and fingerlings. As fry and fingerling are not ordinarily available in as large quantities, as required, due to infrequent and insufficent floods and construction of dams and barrages, induced spawing and cultivation of species which breed in confined waters (such as tillapia and common carp) will be given special attention during the Fourth Plan.

162. Fish ladders in G. M. Barrage will be improved and better coordination between Fisheries Directorate and Irrigation Departments, will be brought about. The development of fisheries in the village ponds will also be undertaken, which programme, if properly, implemented, has great scope for success and will go a long way in meeting the long outstanding needs of the rural population. The development of such a programme would also be desirable as fish will not have to be transported over long distances and would be consumed around areas where produced ; this will also help reduce spoilage which is quite heavy in perishable commodities. In Malakand Division of West Pakistan, there is an urgent need for enacting legislation for conservation of fish which action should not only be expedited but the Act should be vigourously enforced.

163. As regards marine fisheries development and exploitation, the progress has been rather slow except at Karachi. Against the target of 1,000 new mechanised boats in the private sector, only 500 will be added to the fleet during Third Plan. The prime reason for this shortfall was the absence of trained hands and inadequacy of shore and other facilities in East Pakistan and along Mekran Coast in West Pakistan. To induce private sector for larger investments, facilities during the Fourth Plan will be ensured for fish landing and berthing, repair of boats, training of drivers, mechanics, and fishermen to handle and operate mechanised crafts and gears, and supply of fishing equipment at reasonable prices. Public sector will have to play and increasing role to encourage Pakistani fishermen to undertake tuna fihsing on an extensive scale in the Arabian Sea for which great potentials are said to be existing.

164. The programme for mechanization of the existing small canoes and boats with outboard marine diesel engines being implemented by East Pakistan Fisheries Development Corporation will be evluated before its large scale expansion during the Fourth Plan. The Corporation also proposes to procure/construct and operate about 10 fishing trawlers to begin with in the Bay of Bengal. Further expansion of mechanised fishing fleet should be undertaken as more and more information about the fish resources in the Bay of Bengal becomes available as a result of exploratory survey which are underway or will be further taken up during the Fourth Plan.

Marketing, storage, landing, etc.

165. Programme for the expansion of the Karachi fish harbour and construction of Chittagong fish harbour will be completed while another fish harbour will be set up on the Mekran Coast. Work on modernisation of fish curing yards along Mekran Coast will be continued. Other facilities like fish landing jetties and workshops might be developed at other important fishing centres/terminals not covered so far, especially on the Mekran Coast in the light of findings of the forthcoming feasibility study. Industries for processing of fish and fish by products will be set up at places where either inadequate facilities exist or do not exist at all.

Research, Survey and Education

166. Research vessels for exploring deeper off-shore waters are presently under construction and will be completed in the beginning of the Fourth Plan when the exploratory surveys will be intensified and extended to the deeper waters. In the meantime surveys of the off-shore waters, both in the Arabian Sea and the Bay of Bengal for inventory purposes have been completed with assistance from the USSR, the reports on the findings of these surveys will be shortly available. Moreover detailed and final results of the pre-investment survey being carried out with the assistance of FAO in the Bay of Bengal will also become known in not too distant a future. Information that will thus become available will determine the programme for exploitation of marine waters.

167. Biological and technological reserach facilities are being developed and some reserarch on important problems have been undertaken. Biological and technological reserach including research on artificial breeding of fish in impounded waters and removal of weeds in lakes, dams, etc. will be intensified during the Fourth Plan.

168. In addition to the facilities available for training officers at Chandpur, a Faculty of Fisheries has been established in the Agriculture University, Mymensingh, (East Pakistan) which also offers courses in the field of fisheries. The teaching facilities in both these institutions would be reviewed to determine whether such a training should be continued at both the places and if so, how undue duplication could be avoided.

169. Facilities have also been developed in East Pakistan for pre-service and in-service training and also for vocational training of fishermen. These facilities will improve and strengthened during the Fourth Plan in accordance with requirement of trained personnel and technicians during this period.

170. There is no regular institution exclusively for training of fishermen in West Pakistan. A vocational training institute, started at Karachi, was abandoned in 1963-64, soon after it was transferred from the Central to the West Pakistan Government. A training centre has again been established at Karachi in 1968-69 under the Central Government, where fishermen are being given necessary training. In addition, an institute for training of fishermen-*cum*- mechanised launch operators is being set up at Pasni by the West Pakistan Government. In order to further exploit fisheries resources, along the mekran Coast, the facilities available at these training institutes will need to be furhter improved during the Fourth Plan. An Institute for training of Master fishermen and marine diesel engineers will also be developed in the country during the Fourth Plan if the programme for expansion of the mechanised fishing fleet is to be expanded and carried out successfully.

Other programmes

171. The possibilities for starting programmes such as security against disaster, social security and group insurance will be studied and if found feasible, would be introduced during the Fourth Plan.

PART III. INFRASTRUCTURE AND INSTITUTIONAL ARRANGEMENTS

Agricultural Extension

172. As agricultural extension services play an important role in educating farmers in adopting new technology, these services have been considerably strengthened and improved in both the provinces during the three Plan periods. This

is evident from the fact that the strength of supervisory and field staff has increased by about 50 percent during the Second Plan from a level of about 6,000 in 1959-60 to about 9,000 in 1964-65 ; the number is likely to exceed 10,000 by the end of of Third Plan period. Consequently , the farmers are now more easily reached, conveniently persuaded, demonstrated, taught and guided to technologies for raising agricultural productivity and production. Though there is some scope for further expansion of extension services particularly at the village level, but their improvement qualitatively is more desireable and pressing in the immediate future to make them more efficient and effective. Emphasis during the Fourth Plan, therefore, will be on removal of impediments which hinder the efficiency and effectiveness of these services.

173. The first major problem needing attention is the unattractive pay sclaes and service conditions which have not , in the past, been helpful in drawing talented people to this service and have hindered motivation of those already in service. It is, therefore, highly desirable that pay scales specially of sub-professional and professional staff in West Pakistan and sub-professioneal staff as well as Thana Agriculture Officers in East Pakistan should be improved early to make them attractive.

174. Improvement in the service conditions also need urgent attention. It should *inter-alia*, include increased opportunities for promotion through provision of scholarships for further studies and recognition of good work through awards and rewards based on performance Qualifying tests for promotion will also need to be instituted. Besides this, the status of district, and *thana/ tehsil* level agricultural officers should be raised to inspire better work from them and those below them.

175. In West Pakistan, an experiment is being tried in one of the SCARP Areas to appoint graduates in palce of Field Assistants at the Union level. If evaluation of the programme shows encouraging results, consideration may be given to extend this approach throughout the province.

176. The second important problem needing focus is the lack of suitable office and residential accommodation for the extension workers, especially at the Union level which could provide an effective point of contact between the farmers and the extension workers. In East Pakistan this problem has been solved to a considerable extent, as the seed stores constructed during the Second Plan period are being remodelled and utilized as office and residentail accommodation by the Union Assistants. More such centres wherever necessary would be provided in East Pakistan during the Fourth Plan. In West Pakistan, construction of such centres will be taken up, to begin with, on a fairly moderate scale and when their utility is established, the implementation of the programme willl be extended to the entire province.

177. Third major problems is the deficiency in the traing of staff specially the sub-professionals. These sub-professionals (or field workers) are usually matriculates with 2 years training received at the Agricultural Extension Training Institutes. Thier training is mostly the oratical while the practical training in the field is not adequate. The pre-service training does not prepare them fully well for dealing with the farmers having lifelong experience of farming and knowing local problems much better than the extension workers. The deficiency in the pre-service training is being made up to some extent through inservice training and short courses but better attempts in this direction seems essential. The need to improve both preservice as well as in-service training of the field staff is being felt urgently. This problem and further improvements in this respect are discussed in the Section on Agriculture Education in this Chapter.

178. Fourth important problem is inadequate technical supervision due to insufficient number of specialists at various levels. Specialists will be appointed in some of the major disciplines of agriculture, at least at the district level, to begin with during Fourth Plan.

179. Thana and tehsil level extension workers should be able to guide and supervise the lower level staff and also the farmers. Generally agricultural graduates fresh from agricultural colleges/Universitties are appointed at the thana/tehsil levels, and, therefore lack necessary experience in the extension work. Fresh graduates should not be given independent charge of extension work unless they have undergone six months to one year training as probationers with senior members of extension services.

180. Last but not the least is the problem of inadequate transport facilities provided to the extension personnel ; this limits their mobility for efficient discharge of their functions. During the Third Plan, some progress was made to remove this difficulty with the result that transport facilities are provided to the extension workers in some areas. During the Fourth Plan, additional transport facilities will be provided to as much of the extension staff as possible.

181. In-service training improves professional competence of the extension workers but they cannot be very effective unless they are also equipped with all the essential tools, equipments and materials, Such facilities as are currently lacking would be provided during the Fourth Plan.

182. One who studies the set up of the extension service and the agricultural education and reaserach institutes in Pakistan is left with the idea that these are not properly linked up . This may or may not be true in all cases ; however, greater attention will be paid to improve this linkage in order to ensure better flow of information to and fro and efficient translation of reserach results. The Agricultutral Advisory Panel has recommended the setting up of a Committe to sudy the problem of bringing necessary coordination in different institutions dealing with teaching, research, and extension.

183. Agricultural Information Services were imporved and strengthened in both the provinces during the Third Plan. A review of these services will be made on the basis of which additional facilities would be provided during the Fourth Plan to make these services more effective. The opportunities for introducing nutritional concepts through these services will also be explored.

184. Training of farmers by bringing them together at the training centres has been tried on a limited scale. The programme consisted of short training courses in various techniques and skills of agricultmal production and were arranged for the farmers by the Agriculturd Departments and other organisations such as Agriculture Development Corporation in West Pakistan, East Pakistan Water and Power Development Authority, Pakistan Academy for Rural Development at Comilla. More emphasis will be laid on the training of farmers and theie sons during Fourth Plan. A review of these programmes, however, should be taken to remove any undue duplication of efforts and a well coordinated training programme need to be prepared for the training of farmers.

Research on crop production

185. Some of the research results obtained and disseminated during the Third Plan are a landmark in the histroy of agricultural research in the country. The break-through in agriculture and the attainment of near self-sufficiency in foodgrains has substantially been the result of the new wheat, rice and maize varieties evolved and introduced during the last few years. Similarly, a number

of new varieties of other important crops (like sugarcane) possessing the characteristics of early maturity, high yields and resistance to pests and diseases have been evolved and released for general cultivation in both the provinces.

186. A somewhat non-conventional approch to accelerate crop production was adopted by importing from foreign countires large quantities of seed of high yielding, dwarf, stiff stemmed wheat and rice varieties responsive to high doses of fertilizer and introducing them on a large scale. Substantial success has been achieved in terms of increased production but in order to have varieties best- suited to local soil, climatic and other conditions, these and other exotic varieties have been crossed with indigenous ones. In the case of wheat, Mangla 68, Indus 66, Inia 66 and Norteno 67 hold good promise for replacing Mexi-Pak 65 and other imported varieties at present being extensively grown by the farmers. Similarly from the 300 rice varieties imported from the International Rrcee Reserach Institute, Philippines, IR-8 and IR-5 have been selected for large scale cultivation Two new varieties, namely IR-6 and Mehran 69, which are high yielding and possess better grain quality are being multiplied in West Pakistan. In addition, a basmati hybrid, namely, IR424, has also been evolved which possesses the cooking quality of *basmati* rice and gives comparatively higher yield. In case of East Pakitan in addition to the limited cultivation of IR-8 and IR-5 a couple of thousand tons of seed of a new rice variety, namely IR-20, has been imported in early 1970 for extensive cultivation, especially in Aman season. The results of this variety would be watched carefully before larger scale cultivation of this variety.

187. Further work on rice is going on at Kala Shah Kaku, Dokri (West Pakistan) and Joydevpur (East Pakistan) agricultural stations, but the work at the later mentioned station needs intensification particularly in terms of competent personnel for attaining more useful results. It may be mentioned here that the reserach on crop production in East Pakistan did not in the past get the attention it deserved and continued to languish despite sporadic attempts to improve it. It should be ensured that reserach work is so organised that there is a continuous flow of additional reserach findings and new varieties to provide new innovations to farmers. In the absence of this, agricultural growth in that province would not move forward at an appreciable rate.

188. The Department of Agriculture, West Pakistan, has also released some hybrid and synthetic maize varieties for adoption by the farmers. More work is in hand at Yusufwala (Sahiwal) in this respect. There is, however, a pressing need for a crash reserach programme for breeding of high yielding varieties of jute which could help raising productivity. Because of favourable climatic conditions in East Pakistan for sugarcane breeding, intensive reserach work on this crop should be carried out to evolve high yielding, disease-resistant cane varieties responsive to high doeses of fertilizer. The reserach findings in this respect could possibly be used to improve sugarcane varieties in West Pakistan also. Similarly, potatoes, pulses, oilseed crops and fodder crops should also get priority in research programme, as high yielding varieties of these crops would help increase their production which would be desirable both for futher diversification of agriculture and for the improvement of diets of the people. There is an urgent need for evolving new varieties of gram which would be resistant to wilt and blight. Research on fruits of East Pakistan had been lacking in the past, which should receive proper emphasis during the Fourth Plan period.

189. In the case of cotton, the evolution of cotton varieties like MS-39 and MS-40 at Multan is a big step forward. These varieties possess staple length around 1½ inches which is required for fine cloth. There is, however, a need for evolving varieties having staple length required by the importing countries, high yield potentials and a greater response to the application of fertilizer and

other improved farm practices. Evolution of short maturity varieties of the desired quality can help increase intensity of cropping. It may be mentioned here that research activities in cotton crop, and for that matter in any other crop, should be well coordinated with developmental activities to achieve the desired results.

190. Introduction of new crops in different parts of the country has also been carried out in the past. In East Pakistan for example, coffee plants have been tried on an experimental basis while rubber has been taken up for cultivation on a large scale. Banana cultivation has been introduced in West Pakistan with great success. For further work, there is, however, a need for setting up a systematic plant introduction service on scientific lines. In order to keep abreast of the researches being conducted in other countries, which could be made use of in Pakistan, there seems a need for the development of a documentation centre for agricultural research in association with the PANSDOC (of the Pakistan Council of Scientific and Industrial Research) which organisation is already doing some work of this nature.

191. Time has come when priority will have to be given to intensive research on the development of arid zones and dry farming areas in West Pakistan and on the development of winter cropping in East Pakistan, work on which aspects remained almost neglected in the past. There is an urgent need for proper research in the use of land and water resources. This problem has assumed great significance in view of the rapidly expanding pump and tubewell irrigation programme and irrigation schemes of EPWAPDA. A new and fruitful avenue of research pertains to the direct use of sea water on sandy soils for raising crops and gardens ;some small scale programme needs to be carried out during the Fourth Plan period. Water being a scarce resource, experiments with sprinkler irrigation need to be carried out on a large scale. The idea is to use this resource as best as possible to get maximum economic returns.

192. The facilities for agricultural research have been expanded at all the four Agricultural Research Institutes and at their sub-stations. Shifting and expansion of the Agricultural Research Institutes from Dacca to Joydevpur has also been taken in hand. In the light of the above suggested programme, further facilities would be provided during the Fourth Plan at these Institutes and at other places, if considered necessary.

193. In addition to the two Atomic Energy Agricultural Research Stations located at Tandojam and Dacca, work on the establishment of two new institutes for Radiation Genetics and Plant Breeding has been taken up by the Pakistan Atomic Energy Commission. The research activities of various agenices need more and better coordination to avoid wasteful duplication and to assign proper priorities to various research programmes. For this purpose provncial Agricultural Research Committees, set up under the Chairmanship of the respective Secretaries of Agriculture, should play more acitve and effective role, for which purpose these committees should be manned with competent personnel.

194. The Central Ministry of Agriculture and Works set up the Agricultural Research Council in 1964 in place of Food and Agriculture Council, Pakistan, and charged the new organisation with the functions of organizing, coordinating, reviewing and promoting agricultural research and ensuring the utilisation of result research. The work of the Council somehow did not progress to the fulfilment of the desired objectives during all these years and the allocations made for the Council remained unutilized. There is an urgent need for reviewing the functions, constitution and the work of the Council to enable it to provide leadership in agricultural research and to serve as the central coordinating agency. In order that the Council be able to cope with the new responsibilities and to streamline the present organisational arrangements for agricultural research in the country, special

consideration should be given to the division of responsibilities between the Provincial and Central Governments.

195. One of the prerequisites for the formulation of effective research programmes for the future is to evaluate the progress of the existing research programmes. For this purpose, a built-in system of evaluation should be initiated during the the Fourth Plan. As the Agriculture Advisery Panel has suggested, a standing committee should be set up to periodically evaluate the research work conducted by the Agricultural Universities, Departments of Agriculture , Atomic Energy Commission and other organizations dealing with agricultural research.

196. One of the major shortcomings of research in Pakistan has been the irrational salary and service structure of research scientists. In the first instance, the salaries of research scientists are far to meagre to attract competent personnel. Secondly, there are vast differences in the pay scales and service conditions of scientists of equal qualifications and competance in different organisations. The result is a constant depletion of competent scientists which often has serious consequences on research of great practical utility for the nation. The Government of Pakistan and the two Provincial Governments, must, therefore, reorganise the salary and service structure of agricultural scientists. Unless research is brought on sound footing and maintained at that level further progress in development of agriculture is likely to get a set back which Pakistan can ill-afford.

Agricultural Education

197. Increased emphasis on agricultural development during the last decade rapidly raised the demand for graduates in agriculture and other allied fields. The institutions in existence were found inadequate both qualitatively and quantitatively to meet the situation. Efforts, therefore, were directed during the Second and Third Plans to set up new educational institutions and improve the existing ones. Two Agricultural Universities, one at Lyallpur and the other at Mymensingh, were created while facilities at the three Agricultural Colleges at Dacca, Peshawar and Tandojam were considerably improved and expanded to accommodate large number of students. Consequently the output of agricultural gruaduates and post-graduates from all these institutes increased from the annual average of 170 during the First Plan to about 300 during the Second Plan and is likely to exceed 500 per annum during the Third Plan period. The output of other agricultural technicians has also increased in varying degrees.

198. The institutional developments so far, have made it possible to meet the demand to some extent for agricultural graduates quantitatively. However, with the fast technological advancements in agriculture the need for upgrading the quality of agricultural courses is being increasingly felt. This can be accomplished by improving the courses of studies, following a strict system of evaluation of the students during their studies and offering better service conditions to the staff in order to attract capable teachers. Moreover, teaching in the two Agricultural Universities should have much more practical bias. There should also be a common standard sylabus for all the Universities and Colleges teaching agriculture and to determine relative grades of students, at least there should be one common paper for all the institutions. Possibility of having examiners from foreign countries for post graduate examinations should be considered and the agricultural teaching institutions, specially the Universities, should be manned by staff having basic degrees in agricultural sciences.

199. Much complementarity exists between graduate training and research. The students are better trained if they participate in important and well organised research oriented towards the real problems of the country. The teachers who conduct research become more proficient in their teaching work as their knowledge

of actual agricultural problems and potentials increase. This combination of training and research should be expanded in the higher teaching institutions during the Fourth Plan.

200. The Advisory Panel on Agriculture for the Fourth Plan noted that currently there was a duplication and wasteful use of resources in case of certain agricultural institutions including the Universities. All such cases of duplication should be selected and examined by Provincial Governments and suitable measures taken to remedy the situation.

201. The output of trainees at the Agricultural Extension Training Institutes-7 in East Pakistan and 5 in West Pakistan increased from the annual average of about 320 during the First Plan period to about 700 during the Second Plan. Because the duration of the course was increased from one year to two years during the Third Plan, the output in the last year of the Third Plan would be only around 650.

202. The Agriculture Advisory Panel has recommended that in order to improve the level of education and training of field workers *i.e.* Union Assistants in East Pakistan and Field Assistants in West Pakistan, the existing 2 years training course should be raised to 3 years licentiate course (after matriculation) so that the last year is devoted almost entirely to practical training in agronomy and other allied subjects.

203. New and improved techniques and practices for agricultural production are fast coming in as a result of research on various important agricultural problems. In order that an extension worker carries out his functions effectively he is to be kept informed constantly about new developments in agricultural technology. So far, sporadic efforts have been made for conducting refresher courses and providing in-service training for agricultural etension workers at various levels. A comprehensive programme of in-service training for all the agricultral extension personnel will need to be designed and implemented vigorously by the Provincial Governments during the Fourth Plan.

204. East Pakistan Agricultural Development Corporation, which is responsible for the supply of agricultural inputs, has one Institute for providing in-service training to its personnel. In view of the massive programme and huge expansion of its activities the A.D.C' s training programme will also be oriented in the coming years to cope with the demand.

205. The Directorate of Education, East Pakistan have introduced agriculture as a subject in 70 secondary schools in rural areas while during the Fourth Plan, it is contemplated to extend this programme to 200 secondary schools. Similarly, West Pakistan is going to introduce agriculture as a compulsory subject in 600 rural high schools. If this proves successful, the programme will be expanded to all the rural high schools.

206. There is a pressing demand from the provinces for expanding the training facilities for the production of larger number of sub-professionals, graduates and post graduates. While the need for such a demand is recognised in principle, the extent and scope of additional facilities to be provided in terms of more colleges, universities, etc. and in terms of strengthening the existing institutions would depend on the long terms need of such personnel both in the government and private organisations. Some exercises to determine such needs have been carried out by some agencies, but there seems to be a need for the Government to set up a high powered committee to study this complex problem of needs in its entirety including the basic policy issues which the Government must indicate before any

reasonable estimates of requirements can be worked out. For example, it is necessary for the Government to take a policy decision as to whether a graduate or a sub-professional needs to be appointed at the lowest level of the extension ladder and how much area, or how many house-holds he should look after. Similarly, it needs to be determined whether the expansion should be more for plant protection staff or for breeders, economists, dairy specialists or what. The future programme for expansion of education facilities would depend on the decision and availability of information on such basic problems.

AGRICULTURAL ECONGMICS AND STATISTICS

Organization set up

207. By about the middle of the Second Plan, the Department of Agricultural Economics and Statistics and the Agricultural Marketing Directorate, both under the Ministry of Agriculture and Works, were merged and renamed as the Department of Marketing Intelligence and Agricultural Statistics. This change did not help improve the work in the Field of agricultural economics. The Third Five Year Plan, therefore, recommended establishment of a Bureau of Agricultural Economics and Statistics in that Ministry with a view to streamlining and strengthening research in this important field. But the recommendation remained unimplemented until 1968, when the integrated Department was again bifurcated into the Department of Agricultural Marketing and Grading and a new cell known as the Planning Unit, both forming a part of the Food and Agriculture Division. The staff previously employed for research in farm management and agricultural economics and for collecting agricultural statistics has been absorbed in this new Unit. The Unit is quite weak and needs further strengthening particularly in senior positions to render guidance and leadership to shoulder the expanding task expected of it.

Farm Managemenl, Economics and other Studies.

208. Farm management studies provide data as a basis for public policy and for helping farmers in their decision making processes. In the past, farm management survey work has been carried out in some areas but the progress was rather slow because of lack of adequate and competent staff, and much of the work has not been adequately related to policy issues.

209. A series of useful economic studies in agriculture were undertaken by the Ministry of Agriculture and Works and several reports have been published during the last decade, particularly during the period 1960—65. The Third Plan contemplated undertaking studies relating to the affect of tenure and type of irrigation on productivity and economics of milk production and plant protection but these have not been undertaken because of limited staff and perhaps because the staff was occupied with other research studies

210. There is a long list of problems which need to be examined in sufficient depth for policy decisions ; for example, the effect of land reforms on agricultural production, contribution of various inputs to agricultural growth, effect of price support policies on agricultural production and technological advances, the effect of subsidy for various agricultural inputs as an incentive for larger agricultural production, pattern of fertilizer use on crops, disposition of agricultural commodities, need for estimating output of crops by objective method based on scientific lines, variations in food consumption by income, region and season, under-employment and unemployment in agriculture and the like. With foodgrain self-sufficiency in sight, new problems are likely to arise. For example, possible diversion of area under foodgrain crops to cotton, jute or to protective and protein rich foods would have to be considered All these and other similar problems need a vastly

increased volume of economic information on agriculture along with skilled professionals able to discuss the social, economic and nutritional implications of alternative policies.

211. Clearly, agricultural development priorities in Pakistan take new dimensions. In order to accurately appraise alternative policies, a small high level group of agricultural conomists is needed in the Central Government both in the Ministry of Agriculture (Planning Unit) and in the Planning Commission (Agriculture and Food Section) and in each of the Provincial Governments. Besides conducting research itself, these agencies should be able to draw fully upon expanding research studies being carried out in other institutions and to translate the results of the studies into carefully analysed policy consequences.

212. Already, the policy formulation process in Pakistan is suffering from the slow progress in developing adequate statistical data and economic analysis. The production of farm products has expanded more rapidly than the ability to analyse its implications and consequences. This dearth of information and analysis must be remedied quickly during the Fourth Plan.

Agricultural Statistics

213. The organizational set ups in the two provinces have been strengthened and facilities improved for the purpose during the last decade or so. For example, estimates of annual acreage and production of crops have been improved and more crops *viz* ; vegetables, fruits, *kharif*, and *rabi* pulses and potatoes have been added to the existing list of crop estimates. But still there is need for further strengthening and improving these organisations so that the quality is upgraded and scope widened during the Fourth Plan.

214. In East Pakistan, the land revenue system was reorganised as a result of the implementation of the land reforms programme. It was, therefore, recommended in the Third Plan that consideration should be given to use this institution for area reporting system as is the pattern in West Pakistan but no progress has been made in this regard. Because of the importance of obtaining more and correct statistics, the recommendation is reiterated for the Fourth Plan.

215. The Third Plan recommended carrying out of settlement operations in the unsettled areas of West Pakistan (which constitute a substantial part of the total area) so as to develop necessary revenue records and bring these areas under regular crop reporting system. Some progreess has been made in this direction, while further improvements are required during the Fourth Plan.

216. Production of paddy and jute in East Pakistan is now estimated on the basis of crop cutting experiments based on the random sampling techniques. Consideration needs to be given to improve this method with a view to reducing the non-sampling error and to adopting this technique, as far as possible, for other crops in both the provinces so that objective estimates of crop production became available for sound policy decisions and planning purposes.

217. For various reasons, the Second Agricultural Census scheduled to be held in 1969-70 had to be deferred to 1971-72. Having largely overcome initial handicaps, the Agricultural Census Organization is likely to complete its task of conducting the Second Census before the Fourth Plan is over. Some of this staff should be retained on a permanent basis so that surveys on various aspects are carried out during inter census period to collect basic information for policy makers.

218. The Third Plan had recommended that a comprehensive livestock census should be held on country wide basis in 1965. This was carried out in February,

1966 but only in West Pakistan. It is expected that the Second Agricultural Census being held in 1971-72 will make some more information available on livestock wealth. There is an urgent need, however, for conducting sample surveys in the immediate future on the production of milk, meat and other livestock products in the country. A comprehensive livestock census on nationl basis should also be held in 1975.

219. The Third Plan recommended that periodical surveys should be conducted on a countrywide basis to collect statistics relating to fisheries, forestry and livestock products but no progress has been made in this respect. Such surveys including representative surveys of household food expenditure and consumption should receive high priority in the Fourth Plan if several policies relating to these subjects are to be implemented in the context of overall development of the agriculture sector with particular reference to the improvement of diets and welfare of the people.

ARGICULTURAL MARKETING

Organizational set up

220. The merged Department of Marketing Intelligence and Agricultural Statistics, as stated earlier, was once again bifurcated in 1968 into (i) the Directorate of Agricultural Marketing and Grading, and (ii) the Planning Unit in the Agriculture Wing of the Ministry of Agriculture and Works. The new Directorate of Agricultural Marketing and Grading now deals with the work pertaining to grading of agricultural commodities for export, agricultural commodities research and marketing intelligence.

221. The Agricultural Marketing Directorate, East Pakistan, has been strengthened during the Third Plan and a Research Section has been created to conduct studies in agricultural marketing leading to specific recommendations to overcome various problems. The West Pakistan Government, in pursuance of the Third Plan recommendations, have set up a Directorate of Agricultural Marketing with some nucleus staff. As more and better information would be required on marketing of agricultural commodities for domestic consumption and for export, research facilities both in the Central Government and the provinces (particularly in West Pakistan) would be considerably strengthened during the Fourth Plan to enable them to play a more useful role in policy decisions. As agricultural production would continue to increase a larger part of the produce, therefore, would be moving into the market. The farmers need to use some of their increased revenues from the sale of agricultural produce for investment in agriculture including larger uses of inputs. The public sector can provide certain services which lead to improvements in marketing including dissemination of accurate market information, establishment and popularisation of grades and standards and regulation of market charges and practices to safeguard the interest of grower-sellers. The provision of such an information usually is more important to small farmers who constitute a major part of the farming community and hence special efforts would be made on their behalf.

Grading

222. The Central Government is at present responsible for grading of commodities meant for export while the Provinces deal with the grading of commodities for internal consumption. The Department of Agricultural Marketing and Grading introduced compulsory grading of animal hair in 1963, of wool and sannhemp in 1964, of corriander seed in December, 1965, of hides and skins in April, 1968 and of ptototoes in May, 1969 while similar steps for citrus fruits are underway. Practically very little grading work is being done for commodities meant

for internal consumption. Grading of commodities is an essential element in improving the efficiency of the marketing system. As farming is becoming more and more commercialised with agricultural productivity on the increase, grading of marketable commodities for quality will be assuming greater importance both for internal and international markets. The Central and the Provincial Marketing Organizations will need to chalk out a comprehensive programme of grading from the point of view of exportable commodities like rice and for important commodities required for internal consumption. The qualtiy grading of commodities would help us maintain markets abroad. East Pakistan Government will continue and improve grading of eggs while grading of potatoes, chillies, corriander seed and mustard oil will also be initiated. West Pakistan where practically no grading work is beng done at present, should take an active part in the grading of important crops (like fruits) meant for internal consumption.

Regulated Markets

223. In order to safeguard against fraudulent practices to deceive and unduly charge the farmers for various marketing functions, legislation was enacted to establish " regulated " markets where all market functionaries such as weighmen, commission agents, and brokers were to be licensed and their charges fixed.

224. The East Pakistan Government passed in 1964 the Agricultural Produce Markets Regulation Act as a result of which 100 markets were brought under its purview by March, 1970 In West Pakistan, the Punjab Agricultural Produce Markets Act, 1939 amended in 1966, was extended to whole of West Pakistan. Under this Act, 50 new martkets (mostly in Former Sind area) were brought under the purivew of this Act by 1968-69 raising the total to 146 from the level of 96 in 1964-65. These Acts will cover more new markets in the Fourth Plan but it is equally important that the functioning of existing markets (both Regulated as well as others) should be reviewed for improvement and streamlining. A special committee should, therefore, be urgently appointed to look into the the marketing problems of various crops and report its findings in the shortest possible time so that measures are taken to improve the marketing system.

Wholesale and retail markets

255. A vegetable and fruit wholesale market is being constructed at Dacca during the Third Plan. Its operations should be evaluated so as to use the experience for the improvement/construction of more such markets to be encouraged in the private sector during the Fourth Plan. Retail market facilities in the private sector need considerable improvement in East Pakistan. These facilities have mostly been developed so far by the Local Bodies. Agricultural Marketing Directorate of East Pakistan should advise these Bodies to set up more such markets at suitable places during the Fourth Plan.

Market Intelligence

226. The Central as well as the two Provincial Marketing Organizations and the Central Statistical Organization are issuing periodic reports and publications giving daily, weekly, and monthly wholesale and retail prices of important agricultural commodities for different markets. Daily wholesale and retail prices for important commodities are also braodcast from various stations of Radio Pakistan, which have been helpful in providing useful information to the farmers.

227. Efforts need to be made to bring about more coordination in the price reports issued periodically, by various agencies and to improve the reporting system based on quality and grades of commodities. The practice of displaying the daily wholesale prices for major commodities will be introduced in all the regulated markets of the two provinces for benefit of the growers.

Licensed Warehousing

228. The Third Plan provided for initiating programmes on a pilot project basis in the two provinces for licensed warehousing with a view to test if better credit and marketing facilities can be provided to the farmers. The East Pakistan Government is implementing pilot projects for setting up licensed Warehouses at Union and *mandi* levels for the purpose and have also promulgated necessary legislation in June, 1970 for the establishment of a Warehousing Corporation. The West Pakistan Government have not taken up any such project so far. Functioning of the two pilot projects being implemented in East Pakistan should be carefully watched before embarking on a bigger programme, which will iinvolve huge financial outlays.

Government Foodgrain Storage

229. Government godowns are required for maintaining reserve foodgrain stocks for price stabilisation, implementation of price support policies, and for storage of foodgrain for exports and imports Government owned foodgrain storage capacity at the end of Second Plan and that likely to be available at the end of the Third Plan is given in Table 11.

TABLE 11.—*Government owned foodgrain storage facilities available at the end of Second Plan and the targets and achievements of Third Plan*

	Capacity available on June 30, 1965	Third Five Year Plan		Estimated capacity on June 30, 1970
		Target	Likely Achievements	
				Thousand tons
All Pakistan	**1,571**	**595**	**1,056**	**2,625**
East Pakistan	612	250 a	204 b	816
West Pakistan	523	125	568 c	1,091 c
Centre	**436**	**220**	**282**	**718**
East Pakistan	100	10	10	110
West Pakistan	336	210	272 d	608

(*a*) The target was for house-type godowns but was subsequently revised to include 4 silos of 233 thousand ton capacity.

(*b*) Includes 54,000 ton capacity of house-type godowns and 150,000 ton capacity of silo type.

(*c*) Includes 300,000 ton capacity built under Rural Works Programme during 1968-69 and 1969-70. These storages will be the property of local councils and be rented by Food Department.

(*d*) Includes 200,000 ton capacity for rice storage at Landhi and Pipri expected to be constructed under a non-plan project.

230 Work on the on-going schemes will continue during the Fourth Plan, including construction of silos with a total capacity of 316 thousand tons (166 thousand ton capacity to be constructed during the Fourth Plan period). It is estimated that with the present reserve stock policy and future procurement programmes, no additional storage capacity for foodgrains would be required in East Pakistan. The position will, however, be reviewed during the mid-Plan period, in the light of increases in rice production that might take place as a result of larger inputs and new seed technology. Similarly, no additional foodgrain storage

capacity will be required by the Central Government. However, requirements for more storage capacity in West Pakistan need to be urgently assessed in the light of the expanding foodgrain production, price support policy programme and export needs. A Canadian Team is already engaged with the assessment of additional foodgrain storage requirements in West Pakistan including the port of Karachi both by type and location. Pending the results and recommendations of this study, an *ad hoc* block allocation has been proposed for West Pakistan on the assumption that silos of 1-1/2 lakh ton capacity might be needed at Karachi while house -type godown capacity of about 1 lakh ton may be required up-country under the public sector.

Agricultural Credit and Co-operatives

231. Provision of agricultural credit to the farmers, which is so vital in promoting agricultural production, has been much short of demand. The Credit Enquiry Commission estimated in 1959 that on the basis of contribution of Rs. 1,200 crores by the agriculture sector to the national income (at constant prices) in that year, the rural credit requirement would be of the order of Rs. 300 crores, which was based on the assumption that the ratio of credit to output flow in agriculture was about 25 per cent. The contribution of agriculture to the national income has since increased to over Rs. 2,300 crores (at constant prices) in 1968-69. (a). Even if the ratio of credit to output flow in agriculture is assumed to be 15 per cent instead of 25 percent, about Rs. 345 crores should be considered to be the estimated requirement of agricultural credit in the country. In order to be able to meet as much of this demand, and of as many farmers as possible, the Government, right from the First Plan period, has been endeavouring to strengthen the institutional sources of credit and to improve thier working. Important steps taken to improve the situation can be summarised as follows :—

232. Agricultural Development Bank of Pakistan was established by amalgamating the Agricutlural Development Finance Corporation with the Agricultural Bank in 1960-61 ; scope of functions of this organisation has been widened and a line of credit for it has been established with the International Development Association. A programme of re-organisation of cooperative credit and marketing structure was taken up in both the provinces through an increase in the size of primary cooperative socitieis in order to make them viable economic units ; besides there was an extension of operations of cooperative societies in variety and volume. Efforts were made towards withdrawal of cooperatives from the field of commercial banking in West Pakistan ; Government also started participating in the share capital of cooperatives, and the State Bank of Pakistan made liberal loans available to cooperatives. In addition the Government also subsidised administrative and allied cost of the re-organised cooperatives in their initial stages. A Rural Credit Fund from the surplus profits of State Bank of Pakistan for making advances to rural credit agencies was also established (Rs. 125 million had been diverted to this fund from the surplus profits of the State Bank upto the year 1968-69) ; *Taccavi* loans operations were streamlined by excluding distress loans from their purview, thereby restricting their use to genuine productive purposes.

233. As a result of the above measures taken by the Government there has been some streamlining in the handling of agricultural credit, but the amount of credit extended by various agencies did not increase much over time. This is obvious from the fact that Agricultural credit extended by various institutions increased from Rs. 255 million in 1960-61 to Rs. 484 million in 1968-69. This gives and increase of 115 percent in 8 years or an annual compound growth rate of about 10 percent.

(a) Provisional figure as relecased by the Economic adviser to the Government of Pakistan, Ministay of Finance.

234. The progress made in providing credit facilities does not appear that discouraging when measured in terms of growth rate in extending credit, but the position remains far from satisfactory when gauged from the view point of total needs. A careful review brings out some of the difficulties which have hampered successful implementation of agricultural credit programmes. For example, there has been no effective support of the programme for re-organisation of agricultural credit and marketing structure from the provincial governments particularly from the Government of West Pakistan ; funds provided by the State Bank as loans to provincial co-operative Apex Banks have not been fully utilized for lack of guarantee to a specified limit by the provincial government ; Central Co-operative Banks in West Pakistan have not yet stopped advancing loans to individuals ; withdrawal of cooperative Banks in West Pakistan from the field of commercial laons has been very slow. Effective implementation of agricultural credit programmes was also hampered on account of absence of a cadre of trained secretaries for Cooperative Societies. Revolving funds for *taccavi* loans in each province were not created as recommended by the Third Plan with the result that recoveries and extension of taccavi loans have both suffered.

235. As great emphasis will need to be placed on the development of agriculture during the Fourth Plan, the needs of farmers for use of agricultural inputs will expand at a fairly fast rate which will place larger demands on credit requirements. The present institutional arrangements, unless significantly improved are not likely to meet the increasing pressure with the result that efforts in other directions might fail to have the desired effect. The State Bank of Pakistan, at the suggestion of the Credit Advisory Committee, is undertaking a rural credit survey in order to make suitable recommendatios for improving the credit facilities in the country but their recommendations have not become available so far. Until such time as these recommendations become available, it is most appropriate to give priority to the removing of impediments described in the preceeding para. The important point needing attention of the Government is whether it should give full support at all levels to the development of Cooperatives if they wish really to make them successful instrument for meeting the needs of credit, marketing and supplies to the farmers. Necessary arrangements have also to be made to cater the needs of the small farmers who do not fulfil the requirements of credit-worthiness but they otherwise might have potentialities for increasing agricultural production. Points on which action would need to be initiated are the extending of all out support to the establishment of large size credit-*cum*-marketing co-operatives at Union level ; provision of share capital participation in Co-operative Banks from development funds ; elimination of individual members from Central Cooperative Banks by government's purchasing their shares as recommended by Wazir Ali Committee ; compeling the Cooperative Banks in West Pakistan to withdraw from the field of commercial banking within a period of 3—5 years at the most ; strengthning of the Apex Co-operative Bank for Southern Zone ; withdrawal of A.D.B. from the field of short term credit under a phased programme spread over the Fourth Plan period ; increasing the subscribed share capital of A.D.B. to the authorised limit of Rs. 200 million and strengthening the Cooperative structure in East Pakistan. The Provincial Governments should further work out a programme for ' supervised-credit ' particularly to help the small farmers.

236. As mentioned in one of the preceeding paras, under the Second Plan a bold step was taken to solve the farmers' problems relating to credit, marketing and supplies, through the establishement of about 500 large size cooperative societies at the Union level in each province. In East Pakistan the programme was extended to cover 515 Union level societies during the Third Plan period. However, in West Pakistan the programme was more oR less given up during the Third Plan period and substituted by a Farm Service Centres scheme which was not approved by the Provincial Government till the end of the Third Plan period.

Instead of experimenting with various schemes it is desirable to instensify the programme of establishing Union level large size cooperatives in both the Provinces. This programme is not only capable of solving the farmers' problems relating to credit, marketing and supplies in an integrated manner but can easily be linked, in due course, with the establishment of licensed warehouses should the Government decide to start such a programme after sutdying its pros and cons.

237. Effective implementation of the programme relating to credit cum marketing societies is further capable of spreading modern agricultural technology to the small farmers and paving the way for cooperative farming of their lands and cooperative crop insurance. Looking to the potentialities of this programme, a firm decision needs to be taken to intensify it and implement it vigorously.

238. One important point which deserved serious consideration is that most of the recommendatios incorporated in the three five year Plans, and in various reports like report of the Credit Enquiry Commission, the Wazir Ali Committee on Cooperativs, two Action Plans (one for each Province) prepared by the State Bank, etc., have remained almost unimplemented. The problems which impede the growth of a sound agricultural credit programme have of course been identified but much head-way has not been made in over-coming the difficulties. It is, therefore, necessary that the recommendations made in these reports should be reviewed to suggest how quickly the important ones could be implemented. Unless this is done on an emergency basis there does not seem to be much hope for a genuine revival of the cooperative and agricultural credit system in the contry.

239. It is expected that with the creation of a sound agricultural credit system, it should be easy to induce the entry of commercial bank in this important field and utilize a part of their vast financial resources for agricultural credit.

240. By the end of the Third Plan, rural development programme based on Comilla type of cooperative system, in East Pakistan, would be covering about 24 thanas (21 in Comilla district and 3 in other districts) wherein 3,000 farming societies would have been organised for the purpose. The underlying idea of the programme is to inculcate the spirit of cooperative movement amongst the farming community. An evaluation of the pogramme carried out indicates that limited success has been achieved under this experiment because implementaion of the programme is faced with certain difficulties. It has been reported that the desired coordination vital for the success of the scheme, between the project authorities and the civil administration, was not forthcoming ; this factor has in fact slowed down the expansion of the programme. In some areas leadership of the desired type was not available with the result that the promotion of cooperative efforts was adversely affected. The bench-marks before the programme was started were not fixed and therefore the success of the programme in terms of physical achievements could not be measured with accuracy. Finally, the pimary level cooperative societies also did not attract sufficient number of members.

241. It is recognised that the solution to the problem of the rural areas in East Pakistan lies in the development of cooperatives for promoting agricultural production and consequently raising farm incomes. The programme must however grow on sound lines even if it means slow expansion because if this programme fails, the hope for the development of the rural areas of East Pakistan will be falsified for sometime to come. Hence it seems important that as the programme moves forward, necessary impediments which restrict its successful implementation should be removed. Important points that have to be kept in mind are the creation of right type of leadership, appointment of properly trained, staff, changing the mental attitude of the masses through educational campaigns (so that they accept the programme) removal of financial constraints, acceptance of organi-

zational changes (some of which are of radical nature) by the local administration together with their full support. These measures are by no means easy to achieve in a short period of five years to cover the entire province. The programme should, therefore, be expanded at a rate which could meet the requirements for its successful implementation.

242. A detailed evaluation of the work done under the " Reorganisation of cooperative credit and marketing structure" should be undertaken so that the work done under this porject is closely linked with the programme for the rural development on Comilla Cooperative basis to avoid undue duplication between these two projects.

243. In West Pakistan the Comilla type rural development programme might not be the answer to the problem at this stage of development. There the Farm Service Centres project started on a modest scale during the Third Plan has good hopes of success. As a first step, the West Pakistan Government should carefully evaluate this programme and see what progress it has mde during the past few years, what have been the bottlenecks and shortcomings and how the same can be removed. On the basis of such an analysis a programme for the Fourth Plan should be formulated and implemented.

Land Reforms

244. Land Reforms programme implemented in the two provinces has been an important land mark in the institutional arrangements which have helped Pakistan gain a momentum in the field of rapid agricultural development. Under the programme implemented in *West Pakistan* since 1959 about 2.1 million acres of land have been resumed ; total number of tenants to whom such land was sold was about 200 thousand ; the programme has been self-financing because the entire compensation of about Rs. 92 million will have been paid by the end of the Third Plan period from the sale proceeds of the resumed area ; *Jagirdari** was abolished without payment of commpensation and this has helped to increase the Government revenues by about Rs. 3 million a year. About 13 million acres of fragmented holdings where consolidated by he end of Third Plan period. (As a result of consolidation the number of units were reduced from 3.6 million to about 1.6 million). The heartening feature about this programme is that the entire expenditure on it has been paid by the beneficiaries themselves expcept a nominal subsidy of a little over rupee one per acre paid by the Government. Under the programme implemented in *East Pakistan* all intermediary interests in land between the tenant and the State have been acquired ; this programme has not only been self-financing but, in fact, apart from about Rs. 250 million diverted towards payment of compensation till June, 1968, another about Rs. 269 million have till then been a net saving to the provincial exchequer. The retention limits of *Khas* land has been increased from 37 acres to 127 acres. Where excess land has already been acquired on the basis of the old limit and the acquired areas have not been permanently settled with others by the Government, these are being restored to the previous owners to the extent of the new limit.

245. Some other important aspects of the land reforms programme introduced so far are (a) Acquisition of *Waqf* properties (religious trusts) and their management by the state ; (b) allotment of agricultural lands belonging to evacuees on a permanent basis ; (c) rationalisation of the outmoded land revenue assessment and water rates ; (d) disposal of huge state-owned areas in the new irrigation project to peasant properietors ; and (e) bringing upto date of land records which form the basis of title and ownerships.

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* Gift or grant of Land or the right of collecting Land revenue from any portion thereof.

246. Time is now ripe to undertake a detailed evaluation in each province for finding out how far the land reform programme has been helpful in increasing agricultural production and in establishing a happy and contended agrarian society. For example, how the provisions in the land reform law relating to the joint management of indivisible areas (subsistance and economic level) have worked out in practice. This will also help to determine whether the joint ownership has effectively worked in operating the cultivation units and what further policy dedisions are required to improve the situation. As a result of this study, further programme for pooling of resources on cooperative basis, keeping individual ownership intact, can be formulated. It would also be worthwhile to evaluate how far consolidation of holdings has helped in improving efficiency in the utilization of agricultural resources and to what extent this programme is helping in promoting farm mechanisation. Equally important would be a study to assess the extent to which provision in the land reforms law relating to the security of tenants has been effective in practice, and to what extent it has helped in increasing agricultural productivity. It would also help determine whether it has hampered in any way the programme of agricultural development.

247. Further programme of land reforms should aim at finding out ways and means for developing the undeveloped resumed areas in West Pakistan, rationalising the land revenue system particularly in East Pakistan, and giving security of tenure to *bargadaras* (Share-croppers) in East Pakistan which action has become rather over-due. In fact this is tending to lead to absentee landlordism and the reappearing of tenancy. It will also be helpful to examine the circumstances under which Land Utilization Act(West Pakistan) was repealed, and whether that legislation should be revived.

PART IV. FINANCIAL REQUIREMENTS

248. Against an allocation of Rs. 4,115 million made in the public sector in the revised Third Plan, utilisation is expected to be around Rs. 2,811 million *i.e.*' 68 percent (*See* Appendix I). The likely shortfall is due to the lower allocations in the Annual Plans than provided in the Five Year Plan, delay in the release of budgeted funds, non-availability of foreign exchange for some of the programmes and projects (particularly those relating to fertilizers and plant protection) delay in formulation and sanctioning of schemes, lack of suitable technical personnel, and unresolved issues between the provinces and the Central Ministry of Agriculture with regard to the responsibility of executing certain programmes and projects, particularly those relating to fisheries.

249. As some of the administrative and procedural impediments to financial utilization are expected to be removed during the Forth Plan, utilization capacity should improve provided foreign exchange requirements for major inputs are made available from cash resources if timely arrangements cannot be made under aid or loan. It is estimated that during the Fourth Plan an investment of about 5,282 million would be required in the public sector both for programmes aiming at increasing agricultural porduction in the short run and for building up the infrastructure essential for developmental programmes in subsequent Plan periods. In addition, Rs. 1,400 million would be allocated for programme for installation of tube wells by the Agricultral Development Corporation, East Pakistan. Approximate indications of sub-sectorwise allocations are given in Appendices I to V.

Appendix I

Third Plan Allocation and Likely Utilization and Proposed Allocation for the Fourth Plan—Agriculture Sector

ALL PAKISTAN

Name of the Category Sub-sector	Third Plan		Fourth Plan	
	Allocation	Likely Utilization	Total proposed allocation	Per cent increase over Third Plan utilization
1	2	3	4	5
	(in million rupees)			
I. Crop Production Sub-sectors :				
1. Survey, Investigations and Project Areas	108.95	47.36	115.00	143
2. Fertilizers	884.47	883.02	1504.89	70
3. Plant Protection	584.77	390.92	1100.87	182
4. Improved Seed	93.30	61.45	122.00	99
5. Mechanization	417.08	353.47	476.88 (a)	35
6. Colonization	93.82	83.74	35.00	(—) 58
7. Soil Surveys	24.64	22.48	31.10	38
8. Soil Conservation and Watershed Management	100.81 (b)	55.91 (b)	105.15	88
II. Other Sub-Sectors :				
9. Animal Husbandry	147.77	69.58	175.00	152
10. Range Management	15.60	7.05	21.00	198
11. Forestry	257.61	134.20	229.42	71
12. Fisheries	169.94	104.57	133.47	28
III. Infra Structure and Institutional arrangements :				
13. Agricultural Extension	65.53	27.69	100.22	262
14. Research on crop production	94.79	50.87	121.00	138
15. Agricultural Education	112.78	86.65	91.12	(—) 5
16. Agricultural Economics and Statistics	11.67	5.87	25.00	326
17. Agricultural Marketing	26.94	8.55	24.80	190
18. Government Foodgrains Storage	258.60	271.79	213.22	(—) 22
19. Agricultural Credit & Cooperatives				
(*a*) Cooperatives	104.61	48.63	211.00	334
(*b*) Cooperative farming on Comilla basis.	51.68	23.49	42.00	79
(*c*) Contribution to share capital of ADB.	75.00	65.00	35.00	(—) 46
20. Land Reforms	13.50	6.30	8.00	27
21. B.D. and local Government	17.77	—	—	—
IV. Miscellaneous :				
22. Miscellaneous	2.10	1.34	—	—
23. Others	11.00	0.58	—	—
V. Block Provision :				
24. Block Provision	370.54	—	358.86	—
Total	4,115.27	2,810.51	5,280.00	88

(*a*) In addition Rs. 1,400 million have been allocated for tubewell programme of EPADC.

(*b*) This excludes allocation for Watershed Management which was shown under Forestry in Third Plan.

Appendix II

Third Plan Allocation and Likely Utilization and Proposed Allocation for the Fourth Plan—Agriculture Sector

EAST PAKISTAN

Name of the Category/Sub-sector	Third Plan		Fourth Plan	
	Allocation	Likely utilization	Total proposed allocation	Per cent increase over Third Plan utilization
1	2	3	4	5
		——in million rupees——		
I. Crop Production Sub-sectors :				
1. Survey, Investigation and Projects Areas	88.70	42.62	100.00	135
2. Fertilizers	484.20	385.19	1,074.31	179
3. Plant Protection	262.09	193.54	550 11	184
4. Improved Seed	38.49	35.85	80 00	123
5. Mechanization	294.62	237.54	400.00	68
6. Colonization	—	—	—	—
7. Soil Surveys	5.39	4.59	11.00	(—)140
8. Soil Conservation and Watershed Management	2.12	1.76	1.00	(—)43
II. Other Sub-sectors :				
9. Animal Husbandry	54.88	26.02	76.50	194
10. Range Management	—	—	—	—
11. Forestry	124.02	63.23	115.00	82
12. Fisheries	92.45	81.44	82.00	1
III. Infra Structure and Institutional arrangements :				
13. Agricultural Extension	18.20	8.30	50.00	502
14. Research on crop production	30.57	23.94	60.00	150
15. Agricultural Education	68.99	51.09	55.00	8
16. Agricultural Economics and Statistics	2.94	1 67	8.00	379
17. Agricultural Marketing	9.54	5.62	15.00	167
18. Government Foodgrains Storage	202.70	165.14	95.22	(—)42
19. Agricultural Credit and Cooperatives :				
(*a*) Cooperatives	46.46	36.63	126.00	244
(*b*) Cooperative Farming on Comilla basis	51.68	23.49	42.00 (b)	79
(*c*) Contribution to share capital of ADB	—	—	—	
20. Land Reforms	2.00	1.80	—	
21. B.D. and Local Government	17.77		—	
IV. Miscellaneous :				
22. Miscellaneous	—		—	
23. Others	—		—	
V. Block Provision :				
24. Block Provision	223.54	—	358.86	
Total	2,121.35	1,389.46	3,300 00(a)	138

(*a*) In addition Rs. 1,400 million have been allocated for tubewell programme of EPADC.

(*b*) This allocation is only for the on-going projects as the allocation for the new programme is included under Rural Works Programme.

Appendix III

Third Plan Allocation and Likely Utilization and Proposed Allocation for the Fourth Plan—Agriculture Sector

WEST PAKISTAN

Name of category/Sub-sector	Third Plan		Fourth Plan	
	Allocation	Likely utilization	Total proposed allocation	Per cent increase over Third Plan utilization
1	2	3	4	5
		——in million rupees——		
I. Crop Production Sub-sectors :				
1. Survey, Investigation and Project Areas	20.25	4.74	15.00	216
2. Fertilizers	395.00	492.54	421.58	(—)14
3. Plant Protection	184.00	188.08	350 00	196
4. Improved Seed	52.27	23.69	35.00	48
5. Mechanization	122.46	115.93	73 00	(—)37
6. Colonization	93.82	83.74	35.00	(—)58
7. Soil Surveys	9.87	9.08	10.10	11
8. Soil Conservation and Watershed Management	95.00(a)	50.70(a)	95 00	87
II. Other Sub-sectors :				
9. Animal Husbandry	89.94	41.48	90 00	117
10. Range management	15.60	7.05	21 00	198
11. Forestry	123.15	62.40	98.52	60
12. Fisheries	47.43	11.79	40 00	239
III. Infra Structure and Institutional arrangements :				
13. Agricultural Extension	43.92	15.93	44 00	176
14. Research on crop production	32.38	16.54	35.00	112
15. Agricultural Education	43.59	35.43	36.00	2
16. Agricultural Economics and Statistics	2.50	2.07	3.50	69
17. Agricultural Marketing	12.50	0.81	4.30	431
18. Government Foodgrains Storage	27.54	45.76	100.00	118
19. Agricultural credit and Cooperatives :				
(*a*) Cooperatives	58.15	12.00	85.00	608
(*b*) Cooperative Farming on Comilla basis	—	—	—	—
(*c*) Contribution to share capital of A.D.B.	—	—	—	—
20. Land Reforms	11.50	4.50	8.00	78
21. B.D. and Local Government			—	—
IV. Miscellaneous :				
22. Miscellaneous			—	—
23. Others	1.00	0.58	—	—
V. Block Provision :				
24. Block provision	140.00		—	—
Total	621.87	1,154.84	1,600 00	39

(*a*) This excludes allocation for Watershed Management which was shown under Forestry in the Third Plan.

Appendix IV

Third Plan Allocation and Likely Utilization and Proposed Allocation for the Fourth Plan—Agriculture Sector

CENTRE

Name of the Category/Sub-sectors	Third Plan		Fourth Plan	
	Allocation	Likely utilization	Total proposed allocation	Per cent increase over Third Plan utilization
1	2	3	4	5
		—in million rupees—		
I. Crop Production Sub-sectors :				
1. Surveys, Investigation and Project Areas.	—	—	—	—
2. Fertilizers	5.27	5.29	9.00	70
3. Plant Protection	138.68	79.30	200.76	153
4. Improved Seed	2.54	1.91	7.00	266
5. Mechanization	—	—	3.88	—
6. Colonization	—	—	—	—
7. Soil Surveys	9.38	8.81	10.00	14
8. Soil Conservation and watershed management	3.69	3.45	9.15	165
II. Other Sub-sectors :				
9. Animal Husbandry	2.95	2.08	8.50	309
10. Range management	—	—	—	—
11. Forestry	10.44	8.57	15.90	86
12. Fisheries	30.06	11.34	11.47	1
III. Infra Structure and Institutional arrangements :				
13. Agricultural Extension	3.41	3.46	6.22	80
14. Research on crop production	31.84	10.39	26.00	150
15. Agricultural Education	0.20	0.13	0.12	(—)8
16. Agricultural Economics and Statistics	6.23	2.13	13.50	534
17. Agricultural Marketing	4.90	2.12	5.50	159
18. Government Foodgrains Storage	28.36	60.89	18.00	(—)70
19. Agricultural Credit and Cooperatives :				
(a) Cooperatives	—	—	—	—
(b) Cooperative Farming on Comilla Basis	—	—	—	—
(c) Contribution to share capital of A.D.B.	75.00	65.00	35.00	(—)46
20. Land Reforms	—	—	—	—
21. B.D. and Local Government	—	—	—	—
IV. Miscellaneous :				
22. Miscellaneous	2.10	1.34	—	—
23. Others	10.00	—		—
V. Block Provision :				
24 Block Provision	7.00	—	—	(a)
Total	372.05	266.21	380.00	43

(a) A sum of about Rs. 15 million will be available for agriculture sector out of the total block provision of Rs. 100 million for centrally administered tribal territories.

Appendix V

Fourth Plan Proposed Allocations for various Sub-Sectors of Agriculture Sector in the Central Programme showing Regional Benefits.

Name of the Cagetory/Sub-Sector	Centre			Special and Northern Areas	Total
	East Pakistan	West Pakistan	Total		
	——in million rupees——				
I. Crop Production Sub-Sectors					
1. Survey Investigations and Project Areas	—	—	—	—	—
2. Fertilizers	—	—	—	9.00	9.00
3. Plant Protection	131.70	68.30	200.00	0.76	200.76
4. Improved Seed	—	—	—	7.00	7.00
5. Mechanization	—	—	—	3.88	3.88
6. Colonization	—	—	—	—	—
7. Soil Surveys	5.00	5.00	10.00	—	10.00
8. Soil Conservation and Watershed Management	—	—	—	9.15	9.15
II. Other Sub-Sectors					
9. Animal Husbandry	1.50	1.50	3.00	5.50	8.50
10. Range Management	—	—	—	—	—
11. Forestry	—	—	—	15.90	15.90
12. Fisheries	4.50	5.50	10.00	1.47	11.47
III. Infra Structure and Institutional Arrangements :					
13. Agricultural Extension	—	—	—	6.22	6.22
14. Research on Crop Production	20.00	5.00	25.00	1.00	26.00
15. Agricultural Education	—	—	—	0.12	0.12
16. Agricultural Economics and Statistics	6.70	6.80	13.50	—	13.50
17. Agricultural Marketing	3.50	2.00	5.50	—	5.50
18. Government Foodgrains Storage	—	18.00	18.00	—	18.00
19. Agriculture Credit and Co-operatives :					
(*a*) Cooperatives	—	—	—	—	—
(*b*) Cooperative Farming on Comilla basis	—	—	—	—	—
(*c*) Contribution to share capital of A.D.B.	17.50	17.50	35.00	—	35.00
20. Land Reforms	—	—	—	—	—
21. Miscellaneous	—	—	—	—	—
22. Block Provision	—	—	—	—	—
Total	190.40	129.60	320.00	60.00	380.00

CHAPTER 18

WATER DEVELOPMENT

The first two Plans regarded the development of water resources as a prerequisite of the development of agriculture as well as industry. This emphasis on an integrated development of water resources was further increased during the Third Plan when the target for achieving self-sufficiency in agricultural production was set to be achieved by 1970. It was realized that improved farming practices—the use of fertilizers, improved seeds and pesticides—cannot by themselves attain the target of self-sufficiency unless, (i) sufficient and controlled water supplies for irrigation are assured, (ii) the flood control problem in East Pakistan is suitably and expeditiously tackled, and (iii) the menace of water-logging and salinity in West Pakistan is eradicated through well-planned salinity control and reclamation operations. For this reason, irrigation and water supply, and drainage and flood control received high priority in the allocation of development funds during the Third Plan. The same general strategy will continue to be followed during the Fourth Five-Year Plan also.

2. The problems of the development of water resources in the two regions of the country are very different from each other. West Pakistan, which is predominantly an arid and semi-arid region, faces shortage of rainfall in a large part of the region. Its rivers receive supplies from snow-melts and the summer monsoons. With an extensive network of canals in the Indus Basin and an intensive use of the land over the last many years and relatively poor drainage systems, West Pakistan has been faced with the ever impending menace of water-logging and salinity. East Pakistan, which is a humid region, faces the problem of recurring floods which devastate the crops, lives and property on a large scale almost every year. Except during the summer monsoon months (June to September/October), agriculture has to depend either on the residual moisture in the soil or on irrigation wherever it can be provided. Thus, East Pakistan faces over-abundance of water in the summer and scarcity in the winter.

Objectives of the Fourth Plan

3. The principal objective of the Third Plan were : (i) to conserve and maximise the water resource availability in West Pakistan to be used during critical periods, (ii) to control the problems of waterlogging, salinity and soil erosion in West Pakistan, (iii) to take necessary measures for controlling and regulating the flood inundation and tidal intrusion in East Pakistan, and (iv) to develop adequate irrigation facilities for winter crops and monsoon crops during critical periods of failure of rains in East Pakistan. The following will be added to the above objectives for the Fourth Five-Year Plan :—

(i) Tarbela Dam, the last component of the Indus Basin Project, which will be financed both from Pakistan's own resources and through external assistance provided by the Consortium countries, should proceed according to schedule so that it is completed by 1975 ;

(ii) The West Pakistan Irrigation System should be so prepared that the large impact of supplies from Tarbela Dam is adequately absorbed. This means that those projects in West Pakistan which are complementary to the completion of the Tarbela Dam should be undertaken for optimum realization of benefits from surface water, ground water and land development ;

(iii) Renewed and large scale efforts should be made to control and regulate the recurrent floods in East Pakistan, and provide irrigation facilities for increased agricultural production ;

(iv) Necessary measures should be taken to avoid the problems resulting from the threatened diversion of Ganges waters by India ;

(v) There should be greater reliance on internal resources than on foreign assistance ;

(vi) The on-going projects which started during the Third Plan or were carried forward from the Second Plan should be completed during the Fourth Plan so that the benefits from these projects are realised and the effects of investments made in the earlier Plan-periods are noticeable during the Fourth Plan ;

(vii) Additional incentives should be provided to encourage tubewell development in the private sector. The riverine areas which previously received "Sailab" (flood) irrigation before the construction of the Mangla Dam should specially be included for private tubewell development. This incentive of private tubewell development in West Pakistan would be particularly necessary as the public sector SCARP and Drainage Programme will have to be curtailed during the Fourth Plan for want of resources despite the recommendations made for its implementation in the Action Programme of Lieftinck Report ;

(viii) Adequate provisions should be made for research facilities in the field of irrigation, flood protection and drainage. This has been strongly emphasised by the World Bank Study Group for West Pakistan and the IBRD Mission for East Pakistan ;

(ix) A schedule of planned training of personnel at all levels should be evolved to achieve optimum efficiency in the construction, management, maintenance and operation of water resources projects in accordance with the overall policy of the Government to develop the human resources of the country. This will reduce our dependence on foreign services and repose greater confidence in our own trained technical personnel ;

(x) The duplication of efforts by various executing agencies in the Water Resources Sector should be avoided.

WATER RESOURCES DEVELOPMENT IN EAST PAKISTAN

The problems

4. The country is flooded with water during the monsoon season (June to September/October) due to heavy rainfall and over-flowing of rivers and remains almost dry during the remaining months. The ratio of discharges between the dry and the monsoon season ranges between 1:22 to 1:46. The problem of handling such heavy flows during the monsoon season is further accentuated by the fact that nearly the entire region is a flat deltaic plain with slopes hardly exceeding one foot to a mile. The head-reaches of all the major rivers, which inundate as much as about 9 million acres in a year of medium floods, lie outside the boundaries of the country. There are hardly any suitable in-channel or off-channel storage sites. The various studies undertaken since 1957 to examine the problems arising out of recurrent floods conclude that any effective control on floods is possible only if the upper riparian (*viz.* India) closely co-operates with Pakistan. On Pakistan's side the flood hazards could only be reduced by embanking the rivers, improving the channels and providing river training works. In some of the areas perhaps the use of by-pass channels for reducing the flood stages may also be feasible.

5. Over and above all these difficult and complex problems the efforts of the upper riparian to divert some of the flows of the rivers flowing through East

Pakistan, specially during the dry season, is a grave danger for the entire economy of the region. Protracted negotiations with India to resolve the issue amicably have continued for the last 10 years but no agreement appears to be in sight.

6. During the Fourth and subsequent Plans the region has to make an all out effort consistent with financial resources to:

(i) control or regulate the floods to a feasible extent so as to avert the incalculable material damage and human suffering caused almost every year,

(ii) develop and tap all the possible water resources, both surface and sub-surface, to provide dependable and timely irrigation for winter crops,

(iii) properly organize and expand the data collection activity and investigation work by providing adequate funds,

(iv) expedite negotiations with India regarding Ganges waters to avert the imminent danger of damaging agriculture in the areas commanded by the river, and

(v) improve the capacity of the agencies working in the field by suitably reorganising them to undertake a water resources development programme of larger magnitude than before.

Performance during the Third Plan

7. The story of the performance on the water resources development during the Third Plan is not too encouraging. Making due allowance for the factors which were beyond the control of the executing agencies the overall achievement of the financial targets, as illustrated in Appendix III, was 67%. The factors chiefly responsible for the slow progress on the projects included in the programme are as follows:

(i) Indian aggression in September, 1965;

(ii) Delay in the arrival of foreign financial aid during the early years of the Plan;

(iii) Natural calamities like floods and cyclones which damaged standing crops;

(iv) Inadequate rupee allocation to the EPWAPDA schemes mainly due to deduction of the interest charges and debt servicing liablilities at sources;

(v) Diversion of a part of the development funds for operation and maintenance of the completed or partially-completed schemes;

(vi) Organizational and management problems.

8. Despite these bottlenecks the physical performance was not un-satisfactory. Some disparity between the financial and the physical achievements is attributable to the delayed completion of schemes undertaken during the Second Plan. The General Consultants to EPWAPDA who were engaged during the Second Plan, primarily for the purpose of drawing up a Master Plan, submitted their voluminous report in December, 1964. The Government, considering the recommendations of the report, requested the World Bank to assist them in properly reviewing the entire report prepared by the Consultants. The EPWAPDA and the World Bank Group of experts concluded that the Consultant's Master Plan could serve as a guideline for the future course of action recommended to

their organization to send two groups of experts to work on this assignment with the principle objective of evolving a realistic and workable action plan within the overall framework of the Master Plan prepared earlier. Both of the Working Groups assigned by the World Bank for this job remained busy for some months in East Pakistan and submitted their report in March, 1968, which was further refined in May, 1968. Since the World Bank Groups did not make very positive recommendations on the flood problem and the situation demanded some early action, the EPWAPDA and the Government of East Pakistan prepared Master Plans for the abatement of the floods devastating the country year after year. Recently an IBRD Mission which had been working on the water development and flood control problem of East Pakistan have identified a list of 18 projects on which work will be undertaken during the Fourth Plan.

9. In addition to these efforts the EPWAPDA with the help of their General and other Consultants have been able to finalize feasibility studies and reports of a number of projects, and have expanded and improved the data collection programme.

10. The following major water resources development projects have been completed during the Third Plan :—

(i) *Dacca-Narayanganj-Demra Project*

This project has provided irrigation facilities to 15,000 acres and flood protechtion for an area of 12,740 acres at a cost of Rs. 23.3 million.

(ii) *Brahmaputra Right Bank Flood Embankment Project*

This project has been completed by constructing 135 miles long embankment and has provided flood protection facilities for 5,79,500 acres plus 93,200 acres for the reach from Serajganj to Bera which was not included earlier in the project. This has been accomplished at a cost of Rs. 69.7 million.

(iii) *Ground-water Development and Pump Irrigation Project in the Northern Districts of East Pakistan*

With the completion of this project, an area of about 1,86,800 acres has been provided with irrigation facilities by installing:

(i) 362 tubewells with power and transmission line facilities ;

(ii) 689 diesel engine driven low-lift pumps in 95 stations, and

(iii) 60 electrically driven low-lift pumps.

The northern districts of Dinajpur, Rangpur, Bogra and Rajshahi will benefit from this project.

(iv) *Improvement of Old Dakatia and Little Fenni River in Noakhali and Comilla Districts (Phase I)*

The scheme involved solving the problem of drainage congestion of an area of 242 sq. miles. This will bring benefit to the paddy growing lands in the Noakhali and Comilla districts.

(v) *Dredging the Gumti River in the District of Comilla*

This drainage scheme which benefits Comilla district has been completed at a cost of Rs. 11.9 million during the period under review.

(vi) *Comprehensive Drainage Scheme for Faridpur District*

This scheme has been completed at a cost of Rs. 41.1 million and will benefit the areas of Faridpur District.

(vii) *Teesta Sub-Project*

This project was completed during 1967-68 with a view to boost up food production by bringing under cultivation an area of about 33,000 acres of land in the Rangpur District by constructing a diversion dam over Buri-Teesta river with a canal system and related structures.

11. In addition to the above completed projects, the following main on-going projects have made further progress:—

(i) *The Coastal Embankments Project—Phase* 1

This project is one of the most important ventures in East Pakistan in the field of water resources development. It aims at saving some two million acres of land from tidal inundation. The tidal inundation destroys ground crops and makes the land unfit for cultivation unless the salts are leached. Heavy flood during the monsoon-rains also damages standing crops. The coastal embankments when completed will save the areas in parts of Khulna, Barisal, Noakhali and Chittagong districts from such damage and will add to agricultural production. Salinity studies have been conducted and are continuing to determine what areas require protection from salinity incursion. The project envisages to build 2,293 miles of embankments in Phase I.

(ii) *Ganges-Kobadak Project—Kushtia Unit*

Phase I of this project on the Ganges river is nearing completion which will bring 1,20,000 acres of land under irrigation. This will be followed by the completion of Phase II and then by the Jessore Unit of this project for benefiting the area lying further south in the Jessore and Khulna districts. The Kushtia unit is estimated to cost Rs. 509.4 million. This project is based on the existing supplies of the Ganges river and its scope could be seriously affected by any withdrawals by the upper riparian.

With a view to improve upon the cropping intensities and the yields, the East Pakistan Agricultural Development Corporation initiated an extensive programme to provide irrigation facilities to the winter crops through small lift-pumps driven by diesel or electricity. It is estimated that by the end of the Third Plan about 19,000 lift-pumps will have been installed to irrigate an area of about 7,50,000 acres. The East Pakistan A.D.C. have also installed about 850 tubewells covering the northern districts and the districts of Comilla, Mymensingh and Dacca.

In addition to these the general services projects like Improvement of Dredger Fleet, Equipment Pool Project and the Development of Hydraulic Research Laboratory will be nearing completion by 1969-70. The physical targets and achievements for the Third Plan are indicated in Appendix I.

Strategy and Policies for Fourth Plan

12. (i) In East Pakistan the speed of project execution and the long-term planning of water control is largely dependent on the implementation capacity of EPWAPDA. A greater co-ordination within the organisation of the Authority will be necessary for attaining greater efficiency in the operation of EPWAPDA. It would be necessary to further strengthen EPWAPDA and simplify the project approving procedures in order to ensure expeditious implementation of the

Flood Protection Plan. For this purpose, a Central Flood Control Board has been set up to look into the flood control problems of East Pakistan, lay down broad policy measures to review the flood control programme of EPWAPDA, and secure necessary financial resources and technical assistance.

(ii) EPWAPDA and EPADC should co-ordinate their activities in making an inventory of the groundwater resources of East Pakistan. A basin-wide groundwater survey must first be undertaken before large-scale tubewell programmes are taken in hand. Failure to support large-scale tubewell projects with adequate data and feasibility reports might result in uneconomic investment which is to be avoided during the Fourth Plan.

(iii) Considerable investment has been made in the Water Sector in East Pakistan but no major efforts appear to have been made to recover even a part of the cost from the beneficiaries. There is an urgent need to evolve a technique to recover at least a part of the project costs. An Irrigation Directorate to take over and maintain the completed works has recently been created by the Provincial Government. The efficacy of this organisation in recovering water charges from the users will have to be ensured.

(iv) It is necessary to make an evaluation of some of the completed and on-going projects to see whether the benefits as originally envisaged have actually accrued from this heavy investment or not. The Provincial Planning and Development Department may carry out a few test evaluation studies for this purpose.

Programme for the Fourth Plan

13. With the problems of the region and the performance during the Third Plan in view, the Fourth Plan programme has been so framed that the region reaches close to the ultimate target of becoming self-sufficient in its agricultural requirements and saving millions from the sufferings of floods. While the former could possibly be achieved during the Fourth Plan if the long-gestation period schemes are dovetailed with an adequate number of low-lift pumps and tubewells to support the winter crops, the latter is unlikely to be achieved within a short period of five years, firstly because the flood control projects require a much longer time to mature and secondly because a complete control on the floods is not possible without co-operation of the neighbouring country. The Fourth Plan programme is a judicious combination of the projects with long-gestation periods and projects with short-gestation periods. Highest priority has been assigned to the projects which have been continuing since the Third Plan or earlier and adequate funds have been provided to bring them to early completion. The major components of the programme are as follows:

(i) *Investigation, Survey and Research*

The efforts to evolve a realistic Master Plan will be continued by the organisations responsible for the collection of essential basic data relating to river discharge, sediment load, rainfall, evaporation, wind-speed, temperature etc. Nearly 15,728 sq. miles of area still remains to be covered under 4 inches-to-a-mile and 8 inches-to-a-mile contour maps. Although an overall groundwater survey was started in the Third Plan, no effort has so far been made to conduct a basin-wide groundwater survey in the region. The Plan includes a scheme with both these objectives. Feasibility studies of many a project are also proposed to be taken up and completed during the Plan.

(ii) *Flood Protection and Drainage*

The flood protection programme will continue to receive high priority during the Fourth Plan. In addition to the projects like Tippera-Chittagong Multi-purpose Project, Manu River Project, Coastal Embankment Project and the Drainage Schemes for Saddar Sub-Division Noakhali, which have been in progress since the Third Plan, several new schemes will be initiated and completed. Most of the new flood control schemes which are proposed to be undertaken during the Fourth Plan have been classified under the Multi-Purpose Projects Programme because they have a sizeable irrigation component. These schemes essentially relate to the control and regulation of floods, an objective towards the achievement of which the bulk of allocations for the Water Sector in East Pakistan will be devoted.

The programme proposed to be included in the Plan envisages construction of 1865 miles of embankments and 1675 miles of drainage channels in order to protect an area of about 3.2 million acres.

This programme includes many of the schemes which have been proposed in the Flood Protection Plan prepared by EPWAPDA and by the Government of East Pakistan and almost all the schemes recommended in the priority programme of the East Pakistan Flood Commission.

(iii) *Irrigation*

In view of the gigantic size of the flood protection programme and the necessity for expeditious completion of the on-going projects, only a limited number of irrigation schemes have been proposed to be included in the Plan. Some allocations have, however, been made for the tubewell irrigation projects of EPWAPDA. The East Pakistan ADC has also launched a big programme of low-lift pumps irrigation and construction of tubewells which is likely to come into full-swing during the Fourth Plan. Also the multi-purpose schemes to be completed during the Plan-period will bring some area under irrigation. The Plan envisages construction of about 5,200 miles of irrigation canals to provide irrigation facilities to nearly 1.5 million acres. This is in addition to about 1.55 million acres that will be provided with winter irrigation supplies through an expanded programme of low-lift pumps by the EPADC during the Fourth Plan.

The EPADC proposes to bring another one million acres of land under irrigation through an intensified programme of drilling tubewells. The size of the programme will, however, depend upon the result of the ground water investigations, the availability of the financial resources during the course of the Fourth Plan and the implementing capacity of the executing agency.

(iv) *Miscellaneous*

A few miscellaneous schemes for expansion and reorganisation of the existing research laboratories, procurement of new equipment and spares and provision of additional workshop facilities for the dredger fleet and other equipment will be included in the Plan.

Programme Outside the Plan

14. The Flood Control Programme in East Pakistan is intimately related with overall water development programme of the province, as most of the projects are multi-purpose in character. The whole water development programme will, therefore, need to be viewed with an integrated approach. The

East Pakistan WAPDA proposes to carry out the following categories of works outside the Plan:

1. Flood protection embankments and multi-purpose polder projects which provide flood protection as the basic element. In these polder-type projects, irrigation and drainage follow as the natural corollary to flood protection as the embankments which keep off river overflow concurrently create the need for drainage and irrigation.

2. The barrages on the major rivers including the Ganges-Brahmaputra complex with associated link canals and regulating structures.

3. Flood embankments and drainage for major urban centres.

4. Channel improvements.

5. River stabilization works.

15. The resource projections for the Fourth Plan indicate that a sum of Rs. 3,000 million will be available for the Water Sector Programme in East Pakistan, in addition to Rs. 1,500 million earmarked for the flood control projects to be taken up outside the Plan. A major amount of this allocation will be consumed for flood protection, multi-purpose development and irrigation projects of EPWAPDA, the tubewell programmes and the surveys, investigations and research programmes for water resources development. An amount of about Rs. 40 million will be spent by the Central Government agencies in various Water Sector programmes in East Pakistan as well.

16. The physical and financial achievements for the Third Plan and targets for the Fourth Plan are shown in Appendices I and III respectively.

WATER RESOURCES DEVELOPMENT IN WEST PAKISTAN

17. Of the total land area of nearly 200 million acres in West Pakistan, only about 40 million acres are cultivated, of which about 31 million acres are presently irrigated to varying degrees from the surface and sub-surface resources. By 1970, the irrigation system will consist of some 38,000 miles of canals and a series of barrages and canal headworks for controlling the diversion of river flows into canals, about 6,000 large tubewells operating in the public sector and about 79,000 small tubewells operating in the private sector. The total average withdrawals from the rivers at canal heads will be about 90 MAF in 1970, in addition to about 21 MAF obtained from the groundwater aquifer through the public and the private sector tubewells.

The Problems

18. Inspite of these advances the existing irrigation system, inclusive of tubewells, is far from adequate to meet the present and the future needs of West Pakistan. The problem arises from the fact that the area cropped during an average year exceeds the limit the existing water availability can adequately support. The scarcity of water for the over-extended cropped area results in problems like increased salinization of soils, poor yields and low cropping intensities. There are other factors also which hamper the growth of a prosperous agriculture. Briefly the major factors requiring attention during the Fourth and subsequent Plans are as follows:

(a) Insufficient water in a large part of the region resulting in under-irrigation;

(b) Inadequate natural and artificial drainage system, causing problems of water-logging and salinity ; and

(c) Wind erosion mostly in the southern and western Indus Plains and sheet and gully erosion in the sub-montane region causing damage to fertile lands.

19. The key to the solution of most of the problems facing agriculture in West Pakistan today is the development of additional water resources and an efficient drainage system. These tasks can hardly be accomplished within a period of 5 years ; it may require several Plan periods to do so. Due to tight resources position, the Action Programme recommended by the World Bank Study Group headed by Dr. Peter Lieftinck will be to some extent jeopardised, despite the fact that full justification is available for its implementation during the Fourth Plan. Financial strains have imposed a cut reducing the original programme of the executing agencies to a much smaller size. This is likely to create a difficult situation in Water Sector development programme in West Pakistan, because some of the works, which were complementary to the completion of the Tarbela Dam itself, might not even be initiated much less completed during the Fourth Plan. The SCARP activity of West Pakistan WAPDA would also be curtailed for want of resources, and greater reliance has to be placed on private tubewells development. As far as the increase in the availability of water is concerned some burden is likely to be shared by the private sector through private tubewells. The public sector will be freed of a part of the responsibility if the installation of private tubewells is continued to be encouraged.

PERFORMANCE DURING THE THIRD PLAN

20. Despite financial constraints during the entire Plan period, the overall performance in the Water Sector has been quite satisfactory. Water availability increased during this period through the following sources :—

(Million Acre Feet)

Source	Water Availability in		Net Increase
	1964-65	1969-70	
(i) Surface Flow diversions (at canal heads) ..	84.9	90.0	5.1
(ii) Public Tubewells ..	2.0	6.0	4.0
(iii) Private Tubewells ..	5.0	15.0	10.0

21. Significant among these are the surface water increases from greater diversions at canal-heads, which rose to as much as 94.2 MAF in 1968-69 but are likely to be maintained at 90 MAF by 1969-70. This became possible due to the efforts of the Irrigation Department, who diverted maximum supplies that the canals could take safely during the Kharif season when greater supplies were available in the rivers. The winter freshets in the rivers were also utilized by running even some of the non-perennial canals during Rabi when river flows permitted this arrangement.

22. These increases in water supply and other allied facilities resulted in an addition of 2.72 million acres of new area and improvement of 12.65 million acres of old area. This performance compares favourably with the Third Plan targets of adding 3.98 million acres of new area and improving 17.6 million acres of old area.

23. The Water Sector received an allocation of Rs. 2,181 million in the Plan against which Rs. 2,113 million were budgeted. But the actual releases made to the executing agencies were far less. It is estimated that Rs. 1491.6 million or 68 per cent of Plan allocations and 71 per cent of budget allocations will have been spent by the end of the Third Plan. The performance in the Sector, both physical and financial, is shown in Appendices II and IV.

24. The financial stringency resulted in a serious set-back to SCARP programme undertaken by WAPDA. Only the on-going schemes like SCARP II, SCARP III, SCARP (Khairpur) and SCARP (Larkana-Shikarpur) could be provided for adequately. SCARP IV project, which was initiated in 1965, was curtailed to a minimum by reducing its commanded area with the objective of accommodating the private sector tubewell development which appeared quite active in the area. As a result the foreign aid allocated by US-AID for the unit was excluded and was not utilized. Although the public sector tubewells could be easily developed during the short period of five-years, lack of rupee-funds forced the Government and the implementing agency to considerably slow down this programme. As a result only 3,531 tubewells will have been installed and energised for operation by 1970 against the revised Plan target of 7,855. To bridge this gap emphasis was placed on the private sector tubewells which have exceeded the Plan target of 40,000.

25. To some extent, the deficit in water availability will be reduced by the private tubewells but because of their haphazard and scattered location the other major objective of providing agricultural drainage by the public tubewells remains unfulfilled.

26. Despite major increases in the surface water availability, performance during the Third Plan on some of the projects remained rather sluggish. The Karachi Irrigation Project and the Khanpur Dam Project have been lingering on due to shortage of funds, although construction should have been in full-swing by the end of the Third Plan. Except for canal-remodelling work, the G. M. Barrage, the Taunsa Barrage and the Thal Barrage projects moved at a snails' pace.

27. Advances have, however, been made in the field of investigation and Master Planning. The IBRD appointed several groups of Consultants to examine the various problems with which the development of water, agriculture and power is faced. On the basis of several voluminous reports, the IBRD have been able to evolve a Master Plan of development in these fields for 20 years. This Plan has been considered to be one of the most comprehensive documents prepared for the purpose. Surveys and investigations continued to receive a high priority and a number of feasibility studies have been finalized.

STRATEGY AND POLICIES FOR FOURTH PLAN

28. (i) It was expected that all the complementary works necessary to receive Tarbela waters would be initiated or completed during the Fourth Plan. But due to financial stringency, these works would be curtailed considerably. This will have the following implications on the Fourth Plan water development programme:

(a) The utilization of the waters of Tarbela Dam will remain limited due to lack of completion of necessary works to receive its impact;

(b) Some of the important drainage projects recommended by IBRD Study Group in their Action Programme, which should have been taken up, have not been specifically included in the Fourth Plan

This may have repercussions on the entire irrigation system and irrigated areas in West Pakistan underlain with saline groundwater.

(ii) Much as we would like to encourage private tubewell development, these tubewells are haphazardly scattered in the Rechna Doab region, the Bari Doab region and elsewhere in West Pakistan and do not make intensive pumping. As a result, these tubewells have little effect on the water table. The private sector tubewell programme, therefore, has to work in conjunction with and not as a substitute for the SCARP tubewells in the public sector.

(iii) There has been very slow progress on some of the surface water development schemes. The accounts of schemes like Kurram Garhi, Warsak High Level Canals, G. M.. Barrage, Thal Project etc. need immediate closure. Any additional works that have to be done, should be covered under new schemes for balancing and modernization. Definite decision should be taken about Khanpur Dam and Karachi Irrigation Projects, so that they do not linger on from year to year and pile up the overhead costs and interest charges.

(iv) The services of foreign personnel on water resources projects add to their cost. Local engineers in this field are qualified and experienced and need to be encouraged. We should reduce our dependence on foreign experts, employing them only in an advisory capacity where the expertise is not locally available. To quote an example the engineers in WAPDA have with the assistance of foreign engineers been formulating, designing and installing deep tubewells under the various SCARP Programmes since 1959. The local engineers should now be well experienced to undertake this programme independently without any outside assistance. The financial assistance may be utilized only for the equipment required for these projects. Similarly there appears no justification to maintain with WAPDA a large team of general consultants, specially after the preparation of a very elaborate and comprehensive Master Plan by the IBRD.

(v) A substantial amount is allocated during each Plan for small schemes. These schemes are scattered all over but proportionate results are not noticeable. There is a need to properly rationalize this programme.

(vi) The water resources developed after years of efforts often remain un-utilized or under-utilized, either because of the land acquisition problem or due to delay in the construction of water courses. As a policy, water courses whose cost is insignificant in comparison with the project costs, should be a part of the project with the understanding that the cost would be recovered from the users.

(vii) It is necessary to make an evaluation of some of the completed and on-going projects to see whether the benefits as originally envisaged have actually accrued from this heavy investment or not. The Provincial Planning and Development Departments may carry out a few test evaluation studies for this purpose.

PROGRAMME FOR THE FOURTH PLAN

29. The largest programme of water development in West Pakistan will be the construction of Tarbela Dam. The salient features of this project are an earth-*cum*-rock fill dam on the river Indus at Tarbela rising 485 ft. above the river bed with a crest length of 9,000 ft. The dam is designed to impound a gross storage of 11.1 million acre ft. with an initial live storage of 9.3 MAF. A power plant will also be installed with an ultimate installed capacity of 2,100 MW. The total estimated cost of the project is about Rs. 4,536 million. An allocation of Rs. 3,000 million outside the Plan has been made for this project and the Indus Basin Works during the 4th Plan period.

30. With the help of link-canals constructed under the Indus Basin Project, it will be possible to apply the Tarbela waters directly to all the areas down-stream of TSMB link system including canal commands of Sidhnai-Haveli, Pak Pattan-Mailsi, Bahawal-Panjnad and of the lower Indus plains. But the additional supplies cannot be introduced unless the areas are properly equipped with adequate surface and sub-surface drainage. Without drainage, the additional supplies can spell disaster by aggravating water-logging which in turn will accentuate salinity and alkalinity. Provision of drainage is, therefore, a necessity not only to combat water-logging but also to make the irrigated areas fit to receive additional supplies.

31. The intensive cultivation and supply of irrigation water in the Indus Basin is to be planned to increase in the following three ways:—

(i) By surface storage schemes which store surface flood waters that flow into the sea ;

(ii) By developing all useful groundwater underlying a large proportion of the plains ;

(iii) By enlarging canals to permit greater diversion of Kharif river flows.

32. Following this general strategy, programme was prepared by WP-WAPDA in accordance with the recommendations of the Lieftinck Report containing schemes identified in the Action Programme of the said Report. This programme assigned due priority to the problem of water-logging and salinity and made provisions for starting the complementary works connected with Tarbela. It also took into account the question of regional development, paid due attention to the under-developed areas and proposed certain schemes for surface water development in the Quetta, Kalat and D. I. Khan civil divisions. The programme of the Irrigation Department mainly provided for some expansion of the irrigation facilities and reconditioning and remodelling of the existing open canals. It included some drainage projects that were not included in WAPDA's programme. The ADC's programme contained provisions for small dam schemes and for GM Barrage and Guddu Barrage drainage and sub-surface drainage operations. But due to financial constraints these programmes have been reduced to less than half their original size. The priorities have, however, been so determined that the more important projects can be retained even in the curtailed programme.

Surface Water Development Projects

33. Only the ongoing projects which are in an advanced stage of construction will be retained. The priorities of Khanpur dam and the Karachi Irrigation Project may have to be reconsidered. The Gomal Zam project might have to be excluded and instead the Chashma Right Bank canal project in D. I. Khan which offers greater benefits will be retained. The Mangi Dam project in Quetta region subject to determination of its feasibility will be taken up. The other means of increasing the surface water availability will be the following :—

(i) By operation of the Indus link canals which are currently under construction and will enable the Indus flow supplies to be transferred to the Jhelum.

(ii) By completing the on-going and new small dam schemes of the ADC in the barani areas provided they can be justified.

(iii) By storage at Chashma due to the construction of the raised Chashma Barrage.

(iv) By undertaking small surface water schemes in the Quetta and Kalat regions.

34. Provision for initiating work on the Greater Thal Project will also be made in the Fourth Plan.

Groundwater Development in the Public Sector

35. The groundwater development programme, being implemented by WAPDA under the SCARP Programme with the objectives of controlling water-logging and salinity and providing additional water during critical months will be confined to the following projects:—

(a) *SCARP II* (Chaj Doab)—the work on the on-going Lower Jhelum sub-project will be completed during the period under the Fresh Groundwater Development Programme. In addition, the tubewell installation in the saline zone will also be partially taken up during the Fourth Plan.

(b) *SCARP III* (Lower Thal)—the remaining works in the Rangpur Unit of this project consisting of electrification of tubewells will be completed during the Fourth Plan.

(c) *SCARP V* (Shorkot Kamalia Unit)—only a small portion of the project comprising construction and electrification of 426 tubewells under the Shorkot-Kamalia Unit will be completed during the Plan period.

(d) *SCARP VI* (Panjnad-Abbasia)—the project is proposed to cover a total area of 1.63 million acres, out of which 0.89 million acres are underlain by fresh groundwater and the remaining 0.74 million acres by saline groundwater. During the Plan it is proposed to take up only the fresh groundwater portion of the project and construct about 1,760 tubewells and electrify about 1,000 tubewells.

(e) *Dipalpur above B.S. Link.*—This project envisages installation of 630 tubewells in the Dipalpur area above B.S. Link and will be partly completed during the 4th Plan.

(f) *SCARP Rohri North.*—It is planned to complete Rohri North Fresh Groundwater Project with 1,269 tubewells during the Plan period.

36. In addition, the other fresh groundwater projects in the southern zone, namely, Rohri South and Ghotki (Guddu Left Bank) will be partially completed.

37. The Irrigation Department will also embark upon a small scale tubewell installation programme.

Surface Drainage Programme

38. It will not be possible to initiate work on all the projects recommended in the Action Programme of the Lieftinck Report. Only a few areas, which require provision of drainage facilities immediately, have been included in the programme, which is briefly as follows:

(a) Some serious problems of waterlogging have been reported as a result of newly constructed link-canals. Necessary drainage works for the

affected areas are proposed to be taken up during the Fourth Plan, only to the extent resources permit.

(b) It is proposed to provide surface and sub-surface drainage facilities in the Peshawar and Mardan Valley which is seriously threatened with the problem of waterlogging and salinity.

(c) Phase II of the Larkana-Shikarpur Project will be completed during the Plan period.

(d) Surface drainage for SCARP II area has been provided for implementation during the Fourth Plan.

This programme by WAPDA will be supplemented by the surface drainage and reclamation programme of the Irrigation Department and the ADC. About 1,178 miles of drains will be constructed by the Irrigation Department and 966 miles remodelled during the Fourth Plan. The ADC will be engaged in similar activity in the G.M Barrage and Gudu Barrage areas.

Flood Protection

39. With the completion of Mangla and Tarbela, the floods of the Indus and the Jhelum will, by and large, be taken care of, and there will not be any major need to have a large flood protection programme in West Pakistan. However, some schemes of local nature and those needed for areas outside the Indus Basin will be included under this sub-head.

Open Canals

40. Work on the Canal Remodelling Programme in areas where it is urgently required will be given high priority. WAPDA will undertake remodelling of Khairpur Feeder East in order to facilitate increased irrigation supplies to the Khairpur Project area. The Irrigation Department will construct 113 miles of channels and remodel 5,766 miles of existing canals during the Plan period.

Survey, Investigation and Research

41. The storage capacity of Tarbela is expected to decrease at rapid rate. Investigations and feasibility studies of alternate second stage storage possibilities on the Indus are, therefore, of great importance and should be completed as soon as possible. This was strongly advocated by the World Bank Study Group. Adequate provision for such investigations will, therefore, be made in the Fourth Plan keeping in view the size of available financial resources for water development.

Private Tubewells

42. Development of private tubewells during the Third Plan has exceeded the Plan target of 40,000 tubewells. The programme will be continued in the Fourth Plan. There is, however, a need to improve the efficiency of private tubewells. Efforts will be made to increase the coverage as well as the hours of operation. An estimated 30,000 private tubewells are proposed to be added during the Fourth Plan.

43. The resource projections for the Fourth Plan indicate that a sum of Rs. 2,500 million will be available for the Water Sector programme in West Pakistan. In addition Rs. 3,000 million have been earmarked for the Tarbela Dam project and Indus Basin Works outside the Plan. An amount of about Rs. 60

million will be spent by the Central Government agencies in various Water Sector Programmes in West Pakistan as well.

PHYSICAL TARGETS FOR THE FOURTH PLAN

44. While the surface water availability in the Indus Basin would rise in the Fourth Plan period due to operation of the Links from Indus to Jhelum, the storage at Chashma and the enlargement of the existing canals, the supplies from India have ceased with effect from 1st April, 1970 under the Indus Waters Treaty. There is likely to be a general shortage of Rabi water supplies during the Fourth Plan before the commencing of Tarbela in 1975, though there would be some increase in surface supplies during summer due to the operation of inter-river links. The ground water availability will increase from about 21 million acre feet in 1970 to about 33.5 million acre feet in 1975. About 6,000 public and 30,000 private tubewells are expected to be installed during the Fourth Plan.

45. The physical and financial achievements for the Third Plan and targets for the Fourth Plan are shown in Appendices II and IV respectively.

DEVELOPMENT PROGRAMME OF THE CENTRAL GOVERNMENT AGENCIES

Development and Research

46. This sub-sector includes the programmes sponsored by the Pakistan Meteorological Department, the Survey of Pakistan, and the Irrigation, Drainage and Flood Control Research Council.

47. The Meteorological Department and the Survey of Pakistan render services to nearly all the sectors of economy by providing basic data necessary for the planning and formulation of projects. The Meteorological Department provides reliable and adequate climatological and meteorological data, which greatly assist in the planning and formulation of projects in the various sectors *e.g.*, water, power, agriculture, transport, communication and industry. Weather forecasting is another very important function of this Department. The Survey of Pakistan prepares ordinary and topographical maps and establishes benchmarks at close intervals all over the country, providing a basic service to the construction activity. The programme sponsored by these Departments suffered substantial shortfalls during the first half of the Third Plan mainly due to lack of adequate capacity and general financial constraint. Subsequently, however, both these Departments have been geared up to undertake a much bigger development programme than that undertaken ever before.

48. The Irrigation, Drainage and Flood Control Research Council provides assistance to research activities in the development of water resources. The Council was established during 1965-66.

49. The performance of these agencies during the Third Plan and the programme for the Fourth Five-Year Plan are given below:—

PAKISTAN METEOROLOGICAL DEPARTMENT

Performance during the Third Plan

50. The Meteorological Department was allocated a sum of Rs. 25.0 million during the Third Plan, but for want of approved schemes and unusually extra demands by the Pakistan Air Force during 1965-66, emphasis on the development programme could only be placed in 1967-68. The estimated expenditure during the Third Plan amounts to 15.0 million.

51. During the Plan period, three Windfinding Radar Stations at Karachi, Sargodha and Jacobabad were established ; three Storm Warning Radar Stations at Cherat, Sargodha and Dacca were completed ; 15 First-Class Observatories were established ; 8 Observatories were raised to the status of Sub-Regional Centres ; Meteorological Offices at Cox's Bazar, Jessore, Gilgit, Skardu, Multan and Hyderabad, and Aeronautical Meteorological Stations at Lyallpur and Pasni were opened ; 4 Upper Observatories, one in East Pakistan and 3 in West Pakistan were completed ; a Siesmic Observatory at Islamabad was completed and the additional aviation requirements of the PAF were met. In addition, about one-third of the Meteorological Tele-Communication Scheme, which was undertaken during the middle of the Plan, has been completed. The Radar Station at Cox's Bazar has been completed, and the work for a similar station at Khepupara has been undertaken to be completed during the Fourth Plan.

Programme for the Fourth Plan

52. A sum of Rs. 65 million has been allocated for the development projects sponsored by the Pakistan Meteorological Department. The programme includes establishment of First Class Observatories, Storm Surge and Flood Forecasting Unit at Dacca, Storm Warning Radar Station at Hironpoint (near Khulna), Wind Finding and Weather Surveillance Radar Stations, Aeronautical-Meteorological Stations, Electronic Data Processing Centre, Pilot Balloon Stations, Seismic Observatories and Dependent Meteorological Offices ; development of Main Meteorological Offices, Institute of Meteorology and Geophysics, and Data Processing Units at Sub-Regional Research Centres ; and installation of Remote—Recording Equipment at Aerodromes.

SURVEY OF PAKISTAN

Performance during the Third Plan

53. A sum of Rs. 8 million was allocated to the Department during the Third Plan against which only Rs. 2.66 million could be spent due to lack of capacity, slow processing of schemes and non-availability of foreign exchange. The schemes included in the programme were Letter Printing Press, Expansion of the Litho Printing Offices in East and West Pakistan, Length Standardization Laboratory, Forest Survey Party and Town Survey Party under the Development of Survey Resources for National Projects, Multipurpose Geodetic Survey Marks and Construction of Offices at Rawalpindi, Quetta and Dacca. Except for the last scheme which is in an advanced stage of completion, the progress on the other two schemes has been considerably slow.

Programme for the Fourth Plan

54. A sum of Rs. 15 million has been allocated for undertaking the development programme sponsored by the Survey of Pakistan. The programme includes continuation of the on-going schemes, establishment of an Astronomical Observatory, a Mathematical Record Office, a Research and Record Office, and two schemes envisaging construction of residential colonies at Rawalpindi and Dacca.

IRRIGATION, DRAINAGE AND FLOOD CONTROL RESEARCH COUNCIL

Performance during the Third Plan

55. No specific provision could be made for the Council during the Third Five-Year Plan as the Organization was established after the Plan was finalized. However, the programme of the Council which included determination of Field Efficiency in Irrigation, Lysimeter Study, Study of typical Hydraulic problems and assistance in research and training etc., has been recommended in the ADPs and a sum of Rs. 1.39 million has been spent on the preliminary works for the various schemes.

Programme for the Fourth Plan

56. The Council has been allocated a sum of Rs. 20 million for the continuation of the research activities and for initiating a Flood Control Research Institute in East Pakistan.

KASHMIR AFFAIRS DIVISION

Performance during the Third Plan

57. Against a provision of Rs. 20.00 million, about Rs. 10.95 million are estimated to have been spent during the Plan period. The works completed during this period consist of a few tubewells in the Mirpur District and several irrigation channels. In view of the difficult terrain and poor transport and communication facilities, the progress on the programme remained considerably slow.

Programme for the Fourth Plan

58. A sum of Rs. 15.00 million has been proposed to be provided for continuing the on-going programmes, construction of some additional gravity channels, lift irrigation from the Mangla reservior for 12,000 acres. etc.

59. The financial achievements of the Third Plan and the allocations for the Fourth Plan for the various Central Government agencies are shown in Appendix V.

Appendix I

BENCHMARKS AND PHYSICAL TARGETS FOR THE THIRD AND THE FOURTH FIVE-YEAR PLANS

(EAST PAKISTAN)

(Thousand Acres)

Item	Benchmark* for the Third Plan (1964-65)	Third Plan		Benchmark for the Fourth Plan (1969-70)	Targets of the Fourth Plan (1974-75)
		Targets (1969-70)	Achievements (1969-70)		
1. Old area improved by tidal/flood protection and drainage	2,810	2,723	1,000	3,810	3,200
2. New area brought under irrigation	278	1,758	1,000**	1,278	4,050
					1,500 : Projects of EP-WAPDA.
					***{ 1,550: Low lift pumps of EPADC. 1,000 : EPADC Tubewells.

*Total of First and Second Plan achievements.

**Includes area irrigated by low lift pumps.

***Allocations for these programmes of EPADC appear in Agriculture sector.

BENCH-MARKS AND PHYSICAL TARGETS FOR THE THIRD AND THE FOURTH FIVE-YEAR PLANS

(WEST PAKISTAN)

Item	Third Plan			Bench-mark for the Fourth Plan (1969-70)	Targets for the Fourth Plan (1974-75)
	Bench-mark for the Third Plan (1964-65)	Targets (1969-70)	Achievements (1969-70)		
1	2	3	4	5	6
1. Surface Water Supplies :					
(a) At canal heads (MAF)	84.9	2.9	5.1	90.0	2.9
(b) At water-course head (MAF)	59.5	2.0	3.5	63.0	2.5 {0.5 MAF increase from Chasma Storage, 0.5 MAF increase from Storage Dams, 1.5 MAF increase from operation of Indus links.}
2. Public Tubewells (MAF)	2.0	14.0	4.0	6.0	6.5 {6.0 MAF increase from WAPDA's tubewells, 0.5 MAF increase from Irrigation Deptt. and other tubewells.}
3. Private Tubewells (MAF)	5.0	6.0	10.0	15.0	6.0 (increase due to 30,000 tubewells to be installed in the Fourth Plan).
4. Total Water Availability (MAF)*	66.5	22.0	17.5	84.0	15.0

Note : Water availability from Tarbela Dam amounting to 9.3 MAF will not be available till after the Fourth Plan.

*Total of Item 1 (b)+2+3.

1	2	3	4	5	6
5. Total Area Irrigated (000 acres)	27,600	Not defined	4,000	31,600	2,000**
6. Old Area benefitted (000 acres)	8,305*	17,608	12,650	20,956	7,525
					(*i*) Area benefitted by WAPDA's tubewells. 3,590
					(*ii*) Area benefitted by surface and reclamation projects .. 1,450
					(*iii*) Area benefitted by Irrig. Deptt's schemes 112
					(*iv*) Area benefitted by ADC's projects 173
					(*v*) Area benefitted by private tubewells 2,100
					(*vi*) Area benefitted by Chashma Right Bank Canal Project .. 100
New Area brought under Irrigation (000 acres) ..	2,850	3,982	2,720	5,570	1,200
					(*i*) Storage Dams .. 150
					(*ii*) Chashma Right Bank Canal .. 175
					(*iii*) Irrg. Deptt. Schemes .. 575
					(*v*) Private Tubewells *** .. 300

*Total of First and Second Plan achievements.
**This includes New area and additional area irrigated from the old area benefitted.
***Assuming that 12½% of total area benefitted from private tubewells will be new area.

Appendix III

FINANCIAL ALLOCATIONS AND EXPECTED IMPLEMENTATION FOR THE THIRD PLAN AND ALLOCATIONS FOR THE FOURTH PLAN

(EAST PAKISTAN)

(Million Rupees)

Item	Third Plan		Fourth Plan Allocations (outside and inside the Plan)
	Allocations	Expected Implementation	
1. Investigation and Survey and Special Studies	132.56	107.40	308
2. Multipurpose Development ..	700.41	347.97	1,970
3. Flood Protection	759.53	677.85	1,489
4. Miscellaneous Services and Equipment	188.48	114.30	280
5. Irrigation/Tubewell Irrigation ..	179.02	64.56	453
Total ..	1,960.00	1,312.08	4,500

Appendix IV

FINANCIAL ALLOCATIONS AND EXPECTED IMPLEMENTATION FOR THE THIRD PLAN AND ALLOCATIONS FOR THE FOURTH PLAN

(WEST PAKISTAN)

(Million Rupees)

Item	Third Plan		Fourth Plan Allocations			
	Allocations	Expected Implementation	WAPDA	Irrigation Deptt.	A.D.C.	Total
(*a*) Inside Plan :						
1. Survey and Investigation.	146.35	137.71	135.00	30.69	—	165.69
2. Multipurpose Development.	705.07	399.08	490.50	17.85	—	17.85
3. Irrigation Schemes (Surface Water Development)				125.31	127.00	742.81
4. Tubewells and Small Irrig. Schemes (including small dams.)			—	23.77	46.00	69.77
5. Drainage and Reclamation Tubewells.	1,132.78	864.05	985.70	180.00	115.00	1,280.70
6. Flood Protection ..	64.33	37.29	—	28.58	12.00	40.58
7. Open Canals	107.44	53.46	10.00	152.30	—	162.30
8. Miscellaneous ..	25.00	—	—	10.30	10.00	20.30
Total ..	2,180.97	1,491.95	1,621.20	568.80	310.00	2,500.00
(*b*) Outside Plan :						
Tarbela Dam and Indus Basin Works ..	—	—	—	—	—	3,000.00

Appendix V

FINANCIAL ALLOCATIONS AND EXPECTED IMPLEMENTATION FOR THE THIRD PLAN AND PROPOSED FOURTH PLAN ALLOCATIONS FOR DEVELOPMENT BY CENTRAL GOVERNMENT AGENCIES

(Million Rupees)

Agency	Third Plan		Fourth Plan Allocations
	Allocations	Expected Implementation	
1. Defence Division (Meteorological Deptt.) ..	25.0	15.00	65.00
2. Agriculture Division (Survey of Pakistan) ..	8.0	2.66	15.00
3. Natural Resources Division (Irrigation, Drainage and Flood Control Research Council)	—	1.39	20.00
4. Commerce Division (Irrigation of Tea Gardens in East Pakistan)	4.40	3.85	—
5. States and Frontier Regions Division	0.57	0.52	—
Total ..	37.97	23.42	100.00
Azad Kashmir and Northern Regions	20.00	10.95	15.00
Centrally administered Tribal Areas	—	—	10.00

Appendix V

CHAPTER 19

RURAL DEVELOPMENT AND WORKS PROGRAMME

The concept of rural development through a broad-based Works Programme was introduced in 1962. " The traditional pattern of economic development does not necessarily provide an answer to the problem of employment in an over-populated country ". Surplus labour is generally reflected in under-employment and seasonal unemployment in the rural economy. It is necessary to provide additional and seasonal work for them near their places of residence. The Works Programme attempts to do this by creating work opportunities on projects of local significance requiring injection of certain amount of capital as a complement to local labour. The programme also seeks to meet important local needs like construction of small feeder roads, minor irrigation facilities, and rural water supply.

2. The critical element in the programme is organisation. A pilot project was launched in a 100 square miles area in Comilla in 1961 to test the assupmtion that partially unemployed labour could be used for creating social overheads. The pilot project resulted in some definite conclusions. Firstly, that it is possible to identify projects of local significance particularly in the nature of rural infrastructure ; secondly, that the local Government institutions are able to identify these needs and that the local leaders are able to mobilise rural labour for execution of projects thus identified. As a result, in 1962 Rural Works Programme was introduced in East Pakistan with the following basic objectives :--

(a) to provide larger employment opportunities in rural areas ;

(b) to create an effective nucleus of planning and development at the local level, and to associate a much larger segment of the population in the country's development effort ;

(c) to create rural infra-structure such as roads, bridges, irrigation canals, flood protection embarkments, water supplies facilities, etc. in the rural areas ;

(d) to raise additional monetary and manpower resources for Central Programme that may be available for local projects through taxation or voluntary labour.

The underlying assumptions behind these objectives are :

(i) Existence of surplus rural working force ;

(ii) Zero marginal cost of their transfer ;

(iii) Labour intensive forms of local projects and harnessing of surplus labour to accelerate the growth in agriculture sector ;

(iv) Availability of local leadership.

3. On the basis of above considerations, Works Programme was started as a project outside the Plan. " As it was feared that the injection of additional purchasing power in the relatively non-monetized economy of the village in the form of wages might create inflationary pressures, the programme was backed by supplies of food-stuff under the PL-480 programme ". The programme was financed out of the counterpart funds generated by the PL-480 supplies. In the Second Plan period. Rs. 650 million were utilized.

4. Works Programme was integrated with the Third Plan with a larger allocation of Rs. 1,820 million—Rs. 1,200 million for East Pakistan, Rs. 600 million for West Pakistan, and Rs. 20 million for Azad Kashmir and Northern Areas. According to the actual expenditure during the first four years and proposed expenditure for the last year, the total financial outlay would amount to Rs. 1,136 million—Rs. 840 million in East Pakistan, Rs. 280 million in West Pakistan and Rs. 16 million for the Central Programme in respect of Azad Kashmir and Northern Areas.

5. As the Programme was financed from counterpart funds, the reduced supply of PL-480 foodgrains tended to affect the release of funds adversely. Inspite of this, there was a substantial increase in the allocation for Works Programme during 1967-68, a clear indication of the priority attached to this sector by Government.

6. Steady progress was made in certain areas in the first four years of the Plan. In East Pakistan, projects executed related mainly to communications, buildings, flood control and irrigation. 63,752 miles of kutcha roads, 3,118 miles of pucca roads, 41,745 bridges and culverts, were constructed under the Programme. Besides, 396 Thana Training and Development Centres, 3,000 Union Community Centres, 188 Coastal Community Centres and a large number of marketing and shopping centres were built. Construction of 6,750 miles of embankements and 7,700 miles of canals and drainage were undertaken in the flood control and irrigation sector.

7. Particularly notable is the expansion of the programme in the field of irrigation. This innovation was carried out through the same basic administrative mechanism, as the Works Programme. It also involved the active cooperation of the Agricultural Development Corporation and Agriculture Department. It also represented the beginning of a shift in focus to more directly productive projects. The Thana Irrigation Programme in East Pakistan is in essence a programme for co-ordinating certain functions of the agencies of Government concerned with agricultural development and giving these agencies the organisational support of local Government institutions at the thana and union levels. The programme focuses on thana level, where the thana council will prepare irrigation maps showing the physical possibilities of irrigation in the thana based on the best available local knowledge gathered and collected at the lowest local Government unit *i.e.* union council. The Thana Council will construct certain physical facilities such as dams, small control structures and newly excavated or re-excavated "khals" on the pattern of projects under Works Programme. Further, under the Programme additional training facilities will be created at Thana Centres for the training of drivers, mechanics, group manager etc. while workshop and storage facilities will be created at Thana for successful operation of pump and tubewell irrigation programme. Under this programme, 11,410 low lift pumps were fielded in 1968-69 and 19,000 lift pumps are expected to be on the ground in 1969-70. Besides 100 deep tubewells were installed in 1967-68 while 600 more have been installed in 1968-69. Workshop for the maintenance of machines are being set up at each Thana Training Centre. 160 of such workshops and 82 storage godowns have already been established.

8. In West Pakistan, the main physical achievement in the Communication Sector were the construction of 536 miles of metalled roads, 2,086 miles of treated roads, 3,399 miles of "kutcha" roads, 110 bridges and 6,700 culverts. In the Health and Sanitation sector, construction of 586 civil dispensaries, 196 drains, excavation of 463 "dighis" and tanks and installation of 9,518 handpumps was completed. The achievements in the Water, Power and Irrigation Sector included 185 tubewells, 1,296 open surface wells and 445 "karazes". In

the Education Sector, 3,170 schools and in the Social Welfare and Housing Sector, 930 community centres were constructed. Construction of 258 veterinary dispensaries was the main feature in Agriculture Sector.

9. In Azad Kashmir, 190 miles of vehicular roads, 53 miles of pony tracks, and 58 bridges were completed. In addition, 216 school buildings were constructed, 30 lift pumps were installed and 30 tanks were excavated. In the Gilgit and Baltistan Agencies, 48 schemes relating to Transport and Communications Sector for construction of bridle paths, pony tracks, foot bridges and forest feeder roads, were undertaken ; 168 schemes relating to irrigation canals, water tanks and " bowlies " and 39 schemes relating to construction of schools and community buildings were executed.

10. These achievements demonstrate the potential for participation in development projects under rural leadership. They also show that in addition to providing employment opportunities, these projects also have a high pay off for rural development. In an evaluation of the Works Programme in East Pakistan it is calculated that the ratio of benefits to cost for the Programme from its inception to 1968 was 4 : 1.

The programme contributes to economic growth in three ways :

(i) through the development of rural infra-structure, it promotes agriculture both directly (drainage) and indirectly (roads and employments) ;

(ii) the Thana Irrigation Programme directly increases agricultural production by increasing area under cultivation ;

(iii) through an addition to value added, the programme makes a direct contribution to growth.

These findings provide the base for expansion of Works Programme into a comprehensive Rural Development Programme in the Fourth Plan period.

11. The creation of employment in East Pakistan remains a top priority of the Plan. The other two major objectives of the programme for East Pakistan will be :—

(i) to increase the productivity in rural areas ;

(ii) and to provide a more equitable distribution of income and benefits of economic development.

12. In West Pakistan, attention must be given to the use of Works Programme as a selective instrument to accelerate development of the less advanced areas of the region, *i.e.* four divisions with the lowest *per capita* income, Peshawar, D. I. Khan, Kalat and Quetta ; the Sind area, the Northern Areas and Azad Kashmir. Further, since unemployment has been growing in the urban areas of West Pakistan and rural—urban migration is accelerating, a Works Programme for the urban areas will be a new feature of the programme in the Fourth Plan.

PROGRAMME FOR EAST PAKISTAN

13. Rural Development Programme for East Pakistan for the Fourth Plan will be basically directed to harness the energies of landless people for development and to enable small farmers to finance the new agricultural technology.

14. Since the benefits of development flow through employment opportunities, the programme will have to be oriented towards optimum utilisation of labour resources.

15. The infusion of capital into rural areas provided by the Works and Thana Irrigation Programme, the organisation of pump groups and the increase in agricultural income will make it possible to start organising farmers into village cooperatives as a beginning of a disciplined Agriculture Credit Programme and for implementing other economic Programmes in rural areas.

16. Rs. 2,000 million are needed to finance an adequate rural development and works programme in the Fourth Plan period in East Pakistan. Of this amount, nearly Rs. 590 million will be invested in the Thana Irrigation Programme and 1,000 million will be used for rural works. A beginning is being made of the urban works with a modest allocation of Rs. 180 million. An amount of Rs. 230 million will be used for province-wide expansion of Comilla type co-operatives.

17. Careful study of the past work carried out under the Works Programme indicates that an adequate net work of rural roads has been constructed. As of 1968, the Province had 2.5 miles of Works Programme road for every square mile of land under cultivation. What is needed now is first, to ensure that all of these roads are maintained annually, second, to see that some of the smaller roads leading from village to Union headquarters and bazars are widened and improved, and third, that the roads leaving from Union bazar to Thana markets and those connecting Thana headquarters to Provincial roads, railway lines or important waterways are widened so that they are capable of bearing mechanised transport. The more important of these should be given an all weather surface.

18. A major effort at drainage will have to be made. The rapid expansion of irrigation and the construction of larger flood control works will necessitate considerable efforts to create an effective drainage system.

19. The continued losses due to floods make all types of efforts at flood control during the Fourth Plan necessary. While the flood control projects under works programme are minor, they can be effective in two ways ; first, in areas outside the main flood plain of the Province, the Works Programme embankments can be provide effective protection against flooding from individual rivers, and second, this can provide secondary and tertiary structures in conjunction with larger flood control programmes planned and carried out by an agency such as WAPDA. In this second role, the Works Programme is a particularly effective instrument in that it supplements WAPDA and can do the small scale local works much more effectively.

20. Finally, Works Programme will be used to construct some buildings, primarily at the thana level. These buildings will be primary schools, offices, workshops or godowns, all of which are being constructed less expensively under the Works Programme than under other government programmes.

The Thana Irrigation Programme

21. The Thana Irrigation Programme is the single most successful irrigation programme that has been launched in the Province. In its first year of operation, *i.e.* 1968-69, 4,00,000 acres were irrigated. In 1969-70 this coverage will be doubled. Maximum advantage will be taken of this success in the Fourth Plan period and the Thana Irrigation Programme will be expanded as rapidly as possible. To achieve this goal, Rs. 490 million will be allotted to the programme during the Fourth Plan. There are four major types of costs to the Government under the Thana Irrigation Programme. First, is the subsidy to pump groups.

Under the Programme each irrigation group using a pump is subsidized at a rate starting at Rs. 900 in the initial year of operation and progressively declining to zero in the seventh year of pump operation. Second, is the cost of maintaining the pumps. Third, is the cost of digging and grading field channels--both to deliver surface water to feasible pump sites and to distribute pumped water to the fields of the members of the pump group. Fourth, is agricultural education and extension work among the farmers belonging to the pump groups. In addition to the low-lift pump groups, utilising surface water, a target of around 20,000 irrigation tubewells has been established for the agriculture sector. These tubewells and the use of the water from them by irrigation groups will also be planned and administered by the Thana Irrigation Programme. The calculation of subsidies to pump groups is provided in Table I.

TABLE I

Cost of Thana Irrigation Programme in the Fourth Plan period

(million Rs.)

Year	Subsidy	Maintenance	Field Channel	Extension	Total
1	2	3	4	5	6
1970-71	20.7	10.0	30	20	80.7
1971-72	27.8	12.5	30	20	90.3
1972-73	35.2	15.0	30	20	100.5
1973-74	35.2	17.5	30	24.5	107.2
1974-75	35.2	20.0	30	26.8	112.0
					490.7

TABLE II

Subsidy Costs for Irrigation Groups in the Fourth Plan period

	1970-71	1971-72	1972-73	1973-74	1974-75	Total
No. of Power pumps ..	28,000	30,000	40,000	40,000	40,000	
Cost of Subsidy to Pump Groups (million Rs.) ..	19.6	24.5	28.0	28.0	28.0	128.1
Number of Tubewells ..	1,500	4,750	10,250	10,250	10,250	
Total Groups	29,500	34,750	50,250	56,750	60,000	
Total subsidy to Irrigation Groups (Million Rs.) ..	20.7	27.8	35.2	35.2	35.2	154.2

22. An additional amount of Rs. 100 million is being provided for an additional tubewell programme linked with the village co-operatives under the new Rural Development Programme.

23. This expenditure on the Thana Irrigation Programme will provide important benefits to East Pakistan both in the form of increased agricultural production and in the form of permanent new employment opportunities.

24. A simple calculation of the benefits to agriculture from the Thana Irrigation Programme is in Table III. Essentially, the provision of irrigation enables the farmer to grow an additional crop. In addition it enables him to plant an early "Aus" crop on irrigated land and harvest it before the peak flood season in August, thus reducing the probability of flood damage. It also enables him to plant "Aman" crop later, after the peak flood season, and to irrigate it at the end of the growing season. In this way the probability of flood damage is substantially reduced. Of all these benefits, only the additional acreage in "Boro" season can be easily quantified.

TABLE III

Benefits from the Thana Irrigation Programme during the Fourth Plan

Year	Pump Groups	Acreage* acres group	45 per	Total increase in yield
				(In thousand tons)
1970-71	29,500		1,328	1,327,500
1971-72	34,750		1,564	1,563,750
1972-73	50,250		2,261	2,261,250
1973-74	do		do	do
1974-75	do		do	do

25. In addition to these increase in agricultural production, the Thana Irrigation Programme create new demand for agricultural labour as well as a small amount of skilled employment and considerable technical training. The employment is permanent since irrigation will be a continuing effort.

26. In addition to physical accomplishments, one of the primary purposes of the Works Programme is to create employment. The net effect of the Works Programme on employment over the Fourth Plan period is given in Table IV.

TABLE IV

Employment effect of the Works Programme in East Pakistan during the Fourth Plan period

	Average annual expenditure (Million Rs.) during 4th Plan	Estimated Employment in 1974-75 (million manyears)	Estimated employment in 1969-70 (million manyears)	Additional employment at the end of the 4th Plan (million manyears)
1	2	3	4	5
1. Thana Irrigation Programme.	98	0.885	0.280	0.605
2. Works programme excluding thana Irrigation programme.	222	0.370	.110	0.26
Total works programme	320	1.255	0.390	0.865

27. For contribution to total agricultural production and for employment created, the benefits from the Thana Irrigation Programmes are very high. There are probably few other programmes in the Plan that have a return on investment as high as this one.

Integrated Rural Development Programme

28. A new dimension that is being added to the Rural Development Programme is the expansion of Comilla type co-operatives all over the Province.

The "Comilla" Approach to Rural Development

29. The Academy for Rural Development in Comilla has endeavoured for many years to develop a practical model for farmers' organization which is effective, acceptable to farmers, manageable by them and which does not require huge Government resources. By trial and error, over the years, an approach has been developed, which appaently meets these essential requirements. The Comilla approach has been tested outside its laboratory area—the Comilla Kotwali Thana. It is producing satisfactory results in groups of thanas in the districts of Comilla, Chittagong and Dinajpur and in four agricultural estates established by EPADC.

30. The essentials of the approach are as follows :

Grass root or primary village co-operatives are organised preferably around concrete innovating implements requiring group action, such as, pumps and tubewells. The primary societies elect representatives as managers and model farmers who participate in a once a week training course in the Thana headquarters. They learn and then demostrate appropriate cultivation techniques, procure and distribute inputs, manage credit and keep books. They are down to earth extension agents.

31. The primary village co-operatives are grouped at the thana level in a supporting Thana Co-operative Federation. Thana federation has the size and resources to back up the primary societies with essential inputs—credits, supplies and services. They can employ supervisory and extension personnel to continuously help the village groups. The thana federation procures resources from various Government agencies and supervises use of these facilities by the village societies. They maintain and hire out machinery, distribute fertilizer, insecticides etc. Profits out of such operations add to the financial resources of the federations and enable them to extend services in other needed fields.

32. In areas where the programme has been implemented there has been visible improvement in farmer's motivation, adoption of innovations, productive utilization of credit, timely repayment of debts and savings out of increased income. This confirms that the farmer is willing and able to take a path of planned change. But he has to be carefully and continuously assisted. In the Fourth Plan, the Agricultural Co-operatives part of the Comilla model is intended to be multiplied throughout the province.

Objective of the Programme

33. The main objectives of the programme are :

(a) To create institutional infrastructure for effective utilization of resources available for development. The method will be to introduce Comilla-type co-operative organisations, as described above,

throughout the province. Wherever possible, the introduction of irrigation pumps, tubewells, gravity outlets or other inputs will be used as nucleus around which to build the initial primiry societies Great emphasis will be placed on the training of selected representatives of the societies on a weekly basis in the Thana Training Centres.

(b) To organise farmers into permanent cohesive disciplined groups for planned programmes aimed initially at agricultural development.

(c) To utilise institutional credit facilities offered and supervised by the Thana Co-operative Federation and to build capital through savings. While the availability of credit is used as an instrument to form co-operatives it is at the same time one of the primary purposes of the programme to distribute over Rs. 200 crores of supervised credit to the small and medium size farms and facilitate its effective use. The savings aspect of planned development and co-operative action will be an important feature of the programme.

(d) To select agricultural innovations collectively and to promote adoption of innovation by individual members through co-operatives at the village and supporting co-operative federations at the thana level.

(e) To study and experiment for further development and prepare plans for expanding coverage in areas such ware-housing, marketing, processing, electrification, and related areas as education, health, houseing etc. The present programme will only cover the well tested first phase of cooperation—cooperation for improvement in agriculture—joint use of pumps and tubewells, tractors, demostration of new methods and techniques through elected representatives of the groups, distribution of inputs, distribution of credits, training of farm leaders, repayment of loans and savings out of increased income. As the institutional and training programmes progress, other functions and activities will be added progressively in sucessive stages.

(f) To develop local leardership through participation in training programmes organised by the Thana Co-operative Federation and by organising group activities in the villages. Development of leadership at the village and thana levels is a pre-condition of the growth of viable peoples' organisations to plan and pilot development programmes in a big way.

(i) To facilities income distribution among the smalller farmers.

34. The programme will not directly increase the lot of landless labourers or of families with extremely small plots of land. But these groups will benefit indirectly from the increased demand for agricultural labour and increased welfare around them. Additional requirements for labour will continue to be created also by the Rural Works Programme including the Thana Irrigation Programme. Beside the complimentary programmes of Rural Works and Thana Irrigation, pilot experimentation will also be done in Rural Electrification as linked with running of the power pumps and tubewells and co-operative processing units. Provision has been made for such experimentation in the cost estimates.

Present Projection

35. To implement these objectives within as short a time as possible, a programme has been designed for nine years, beginning in 1970-71. The proposed projection envisages coverage of the province in five years with continuation of the programme for 9 years and continuance of loan repayment for 20 years thereafter.

TABLE V

	1970-71	1971-72	1972-73	1973-74	1974-75	Total
Number off Thanas	74	80	80	80	99	413

Once a Thana is taken up for action, the programme will cover initial training, organizational support and financial support for a period of five-years. The initial period of five-years of the last group of Thanas to be taken up in 1974-75 will end in 1978-79.

36. Under the Rural Development Programme co-ordinating Project officers will be carefully trained for each thana with complementary staff. As village co-operatives are formed, each village group will elect a manager responsible for the operation of the organization. The manager will attend weekly training sessions at Thana Training Centres. The training of local leaders will be continuous. The cost for administration, training and construction of physical facilities over the Fourth Plan period is around Rs. 230 million. In addition there will be a large requirement of agricultural credit to be channelised through the State Bank and Provincial Co-operative Bank.

WORKS PROGRAMME FOR WEST PAKISTAN AND CENTRE

37. A tentative amount of Rs. 400 million has been alloted to West Pakistan and Rs. 50 million to the Centre for Azad Kashmir and the Northern Areas (Rs. 35 million), and centrally administered tribal areas (Rs. 15 million). For purposes of calculations these two have been combined.

38. The Works Programme is more effective as an instrument of economic policy in those areas where unemployment is highest and *per capita* income is lowest. For this reason, the productivity of the programme has been higher in East Pakistan than in West Pakistan. The Works Programme expenditure in West Pakistan should be concentrated in the less developed areas. Moreover, since non-agricultural unemployment in West Pakistan rose from, .19 million or 3.0 per cent in 1965 to .25 million or 3.2 per cent in 1969, any effort to increase employment opportunities might well be focussed on the urban areas.

39. The four Divisions of West Pakistan with the lowest *per capita* income are Peshawar, D. I. Khan, Kalat and Quetta ; those in addition to the Northern Areas and Azad Kashmir contain 15 per cent of the West Pakistan population. If the West Pakistan and Central Works Programme were concentrated on these areas where they could do the most good, the programme may be allocated funds in the ratio as indicated below :—

(i) Rs. 120 million Programme for the four less developed divisions of West Pakistan ;

(ii) Rs. 30 million Programme for supporting drainage and irrigation works mainly in Sind Area.

(ii) Rs. 250 million for Urban Works Programme.

(iv) Rs. 35 million Programme for the Azad Kashmir and Northern Areas and Rs. 15 million Programme for the Tribal Areas.

A programme of this size and nature would help reduce income disparities within the province.

40. Since unemployment has been growing in the urban areas of West Pakistan and this combined with an accelerated rate of rural migration is causing a deterioration of urban living standards, a Works Programme for urban areas is called for. As the urban areas of the Province have a good revenue base they too are capable of making an important contribution to urban development work. Therefore, funds from the Works Programme to the urban areas should be matched on a 1:1 basis (one unit of local resources per every unit of national).

41. The most pressing need of the urban areas seems to be the improvement of the environmental condition in the cities and towns. For this a Works Programme for the urban areas of West Pakistan is indicated.

Urban Works Programme

42. It is a truism to say that the growth of physical welfare facilities and services is not keeping pace with our economic growth. The resultant deterioration in environmental conditions in the urban areas has created many problems and caused serious tensions.

43. The problems of the urban areas are currently being identified and analysed in detail. Specific programme like diversification in industrial and commercial location, use of labour intensive technology in industries, measures for stabilizing the price index of essential commodities etc. will have to be evolved and employed in the context of broad regional and urban development Programmes. What is immediately important however, is evolve new approaches for improving the environmental condition of the low income groups in the urban areas.

44. The major instrument in the Fourth Plan for takling the problem of living condition in urban areas will be the Urban Works Programme. Due to resources constraint and the experimental nature of the programme, the size in financial terms will be modest *i.e.* Rs. 430 million only (Rs. 250 million for West Pakistan and Rs. 180 million for East Pakistan).

45. The programme will be used in a selective manner in the areas where according to existing trends of population distribution, a majority of the increase will be located. According to a study in the Planning Commission the increase will be in the existing developing commercial centres such as Dacca, Chittagong and Khulna in East Pakistan and Karachi, Hyderabad, Multan, Lahore, Lyallpur, Peshawar and Quetta in West Pakistan. Initially it would be advisable to concentrate on these cities with sub-area phasing.

46. Possibility of improving rather than clearing slums should be explored. Provision of certain essential facilities *e.g.* water supply, sewerage, drainage, electricity, play grounds etc. could go a long way in improving environmental conditions. Community taps could be provided for water supply while rough sewerage and drainage system could be built instead of costly pipe sewerage. It may be mentioned here that in the large urban areas not more than 30% of the population has access to piped water mainly from public stand posts. More than a quarter of urban population have no sewerage or drainage of any kind. Shortage of play grounds and stadia has created problems for the urban youths.

47. Priority fields of the Urban Works Programme will therefore be:

(i) provision of drinking water through community stand posts;

(ii) drainage sewerage and public facilities;

(iii) community recreation centres *e.g.* play grounds stadia etc. Out of the total allocation under the Urban Works Programme roughly about Rs. 40 million will be set apart for the development of play grounds stadia etc.

48. The programme implementation should be through such an organisation as would be able to elicit community support and participation. The Municipal Committees therefore would be the most suitable organisation for implementing the projects since the members of such Committees will be elected local leaders enjoying support of local population. Further the local revenue base of these local Government bodies will augment the programme by matching Government fund with local fund on 1 : 1 basis. In the specific case of improvement of sports facilities however, the Municipal Committees may work in collaboration with various sports bodies.

Financial size of the Programme

49. The size of the programme for East Pakistan will be 2,000 million while that for West Pakistan and the Centre taken together will be 450 million. As under the Third Plan, the allocation to East Pakistan is considerably higher. This is because the unemployment problem and deficiency in infrastucture facilities are more acute in that Province and because its agricultural production programme is wider in scope and more diversified in nature.

Organisational problems

50. The Works Programme in the Third Plan period came under criticim because the institutions of Basic Democracies which were responsible for planning and executing the programme were also the electoral colleges, for election to the offices of the President and the National/Provincial Assemblies. Now that the Basic Democracies have been divorced of their political functions, they can operate the works programme in a more receptive climate and become more effective instruments of planning and implementing development programmes at the local level. A comprehensive review and strengthening of the administrative system of the Programme is needed to ensure that its economic objectives are fulfilled. Such a review would have to emphasize adherence to the rules concerning maintenance of works previously carried out, and the public information and audit provisions which ensure the proper use of fuods.

51. However, the greater magnitude and diversification of the programme will necessitate further improvement and streamlining of the planning and implementation of the programme. Local bodies responsible for local planning of Works Programme, will now be needed to formulate the programme in gross physical terms for the five-year period alongwith rough annual phasing. In both the rural and urban sectors, the schemes drawn up by Local Councils will be submitted for technical scrutiny at appropriate levels and will finally be subject to review at the Provincial level. This review process is necessary to ensure that the decisions of Local Councils remain within the general priorities of National Development Programme. Each Local Council (rural and urban) will prepare a plan for the area taking into consideration the estimated availability of resources both governmental and local. These plans will include basic data of natural conditions, economic activities, demographic characteristics, and facilities already available in the area. They will project the areas' needs between now and 1975. These plans after review will be consolidated in Thana and District plans and finally incorporated in the Provincial Development Plans and the National Plan.

52. A major problem in implementation of the programme during the Third Plan was the lack of technical personnel at the local level. Comprehensive training programme to impart the necessary skills to the people in

rural areas is, therefore, to be developed. In East Pakistan increasing arrangements for training of local workers were made through Thana Training and Development Centres and through workshops established under the Thana Irrigation Programme. This effort has to be further intensified and more closely linked with the training programme in the Pakistan Academy for Rural Development in Comilla. Similar Programmes for organising comprehensive training courses have to be formulated in West Pakistan.

Financing of the Programme

53. The Works Programme was originally financed by counter-part funds. The flow of these funds was uneven resulting in rather unsatisfactory and *ad hoc* planning by local bodies. Further, piecemeal and inadequate release of the funds has also been a serious bottleneck in implementing the programme during the Third Five-Year Plan. Since in the Fourth Plan the local bodies will be asked to formulate Five-Year Plans within the framework of the National Plan, it is necessary to have relatively firm financial allocation. Hence, the programme forms an integral part of the Plan. Uncertainties about PL-480 food imports, however, calls for exploration of alternative sources of financing the programme. Grants out of the central and provincial budgets may continue and the need for generating fresh resources may also be considered seriously. Major efforts should be made to increase the local revenue base. Whether a part of this programme could be financed by loan to be recovered in course of time from the beneficiaries is also a question worth considering.

APPENDIX I

Benchmarks for the Third and Fourth Five-Year Plans in the Works Programme Sector

EAST PAKISTAN

Sub-sector/Item	Unit	Bench-mark for the Third Plan (1964-65)	Target for the Third Plan (1969-70)*	Bench-mark for the Fourth Plan (1969-70)	Target for the Fourth Plan* (1970-75)	Per cent increase over (1969-70)*
1	2	3	4	5	6	7
I. Transport And Communications:						
1. Kutcha Roads ..	Miles	23,375	..	102,306	..	..
2. Pucca Roads	Miles	778	...	5,279	...	..
3. Bridges and culverts	Nos.	7,438	..	64,969	..	..
II. Physical Planning and Housing :						
4. Buildings (Thana Training Development Centres, Union Coummunity Centres, Town Municipal Halls, Market/Shopping Centres etc.) ..	Nos.	1,668	..	10,122	..	--
III. Water, Power & Irrigation :						
5. Embankments ..	Miles	2,912	..	10,810	--	--
6. Drainage and Canals	Miles	3,660	..	13,060	..	..
7. Thana Irrigation Project :		..				
(i) pump workshops	Nos.	..	..	160	..	..
(ii) Storage Godowns	Nos.	..	..	82	..	..
(iii) Power Pumps ..	Nos.	..	..	20,042	..	..
(iv) Fractional Power pumps	Nos.	..	..	2,087	..	...
IV Other Projects:	Nos.	75	..	6,847	..	--
V Integra ed Rule Dev. Programme	Nos. Thanas	1	..	24	413	..

*Works Programme has no pre-determined physical targets.

APPENDIX II

Benchmark (Estimates) for the Third and Fourth Five-Year Plans in the Works Programme Sector

WEST PAKISTAN

Sub-sectors/Items	Unit	Bench-mark for the Third Plan (1964-65)	Target for the Third Plan* (1969-70)	Bench-mark for the Fourth Plan (1969-70)	Target for the Fourth Plan (1970—75)*	Percentage increase over (1969-70)
1	2	3	4	5	6	7
I. Transport and Communication :						
1. Metalled Roads ..	Miles	236	..	828	..	..
2. Treated Roads ..	Do.	319	...	2,030	..	..
3. Kutcha Roads ..	Do.	747	..	3,467	..	..
4. Repair of Roads ..	Do.	..	..	451	..	..
5. Bridges	Nos.	151	..	447		..
6. Culverts ...	Nos.	3,449	...	11,194	...	...
II. Health and Sanitation :						
7. Water Supply ..	Nos.	3,300	..	11,870	..	..
8. Civil Dispensaries ..	Nos.	238	..	905	..	..
9. Drains	Nos.	..	...	1,885	..	..
III. Water, Power and Irrigation :						
10. Tube-wells	Nos.	72	..	287	..	..
11. Open Surface Wells	Nos.	1,371	..	3,521	..	..
12. Karazes	Nos.					
IV. Education :						
13. School Buildings ..	Nos.	2,588	...	8,481	..	..
V. Social Welfare and Housing :						
14. Community centres	Nos.	525	..	1,935	..	..
VI. Agriculture :						
15. Veterinary Dispensaries. ..	Nos.	185	..	514	..	..
16. Food storage godowns	Nos.	..	..	300	..	..
VII. Other Projects ..	Nos.	1,048	..	1,816	..	..

*Works Programme has no pre-determined physical targets.

APPENDIX III

Benchmarks (Estimates) for the Fourth Five-Year Plan in the Works Programme Sector

CENTRE

Sub-Sector/Items	Azad Kashmir (figures in numbers)*	Gilgit Agency (figures in number of schemes)	Baltistan Agency (figures in number of schemes)
1	2	3	4
I. Transport & Communication :			
1. Vehicular Roads	228		
2. Pony Tracks	64		
3. Vehicular Bridges	8	24	34
4. Foot Bridges	62		
5. Maintenance of Roads	60		
II. Physical Planning and Housing :			
6. District Council Offices	4		
7. Tehsil Council Offices	10		
8. Union Council Offices	144		
9. Residential Quarters	10		
10. Community Halls	4	36	10
11. High School Buildings	18		
12. Middle school Buildings	128		
13. Primary School Buildings	6		
14. Girls School Buildings	108		
III. Water, Power and Irrigation :			
15. Kools	16	154	48
16. Lift Pumps	36		
IV. Health and Sanitation :			
17. Dispensaries	18	..	..
18. Slaughter Houses	2	..	..
V. Rural Water Supply :			
19. Water tanks	36	..	..
20. Ponds	2	..	..

*Except in the case of Roads for which the figures are in miles.

N.B.— (i) As there was no Central Programme during the Second Plan, benchmark for the Third Plan was nil.

(ii) Works Programme has no pre-determined physical target.

CHAPTER 20

INDUSTRY

THIRD PLAN IMPLEMENTATION

1. The performance of the industrial sector in the first four years of the Third Plan, though substantial, has not been entirely up to expectation. The Plan has had a chequered career. It got off to a difficul start in 1965-66 and the pace of investment and production was again upset by the distrubances of 1968-69.

2. Due to initial difficulties the formulation of a new industrial policy was delyed. The comprehensive Industrial Investment Shchedule was published with considerable delay and even after its publication, the issue of sanctions from it was severely restricted. There was a significant lapse of time before detailed proposals, such as the Priority List of Industries, could be issued. Thus, a good deal of the shortfall in industry in the Third pllan can be attributed to extraneous factors and is not a reflection of the potential of the sector in the Fourth Plan.

3. These delays, coupled with shortage of imported raw materials, have contributed to an erratic performance by the sector. As a result, instead of growing at the rate of 12 per cent as planned, the output of large-scale industries increased at an average annual rate of 8 per cent. However, despite these set-backs, the contribution of the manufacturing sector to the GNP increased from 11.4 per cent in 1964-65 to 12 per cent in 1968-69.

4. In addition to its contribution to the Gross National product, the manufacturing sector played an increasingly important role in stimulating exports. in 1964-65 the exports of manufacturaed godds amounted to Rs. 769 million (about 32 per cent of the total exports). In 1968-69 they rose to Rs. 1,510 million (about 47 per cent of the total exports). It is estaimated that during 1969-70 the exports of manufactured goods, which are likely to be of the order of Rs. 1,850 million, will account for more than 50 per cent of the total exports.

5. The main impact of the change in emphasis on industry was felt in West Pakistan. Particularly as a result of the slower growth of import-intensive industries, on account of raw material constraints and a deliberate slow-down of consumre goods industries, the industrial growth rate came down to an average of 8 per cent in the Third Plan compared to 12 per cent in the Second. In East Pakistan, where the economy was relatively insulated from the foreign exhange constraint, the growth rate in industry improved from six per cent per annum in the Second Plan to 10 per cent in the Third.

6. Table I shows industrial production in 1964-65, physical targets of the Third Plan and the estimated achievement by the close of the Third Plan period.

TABLE 1

Targets and Achievements during Third Plan

Item	Units	1964-65 achievement	Target 1969-70	Estimated achievement 1969-70
1	2	3	4	5
1. Food manufacturing:				
(i) White sugar	Th. tons	312	640	730
(ii) vegetable ghee	Th. tons.	90	140	160
(iii) cigarette.	Millions	18,500	30,000	40,000
(iv) tea	Mill. lbs.	64	74	68

1	2	3	4	5
2. Manufacture of Textiles :				
(i) cotton yarn	Mill. lbs.	520	720	700
(ii) jute goods (Hessian/sacking)	Th. tons	331	800	545
(iii) broad loom jute products	Th. tons	10	120	55
3. Paper and Board :				
(i) writing and printing paper	Th. tons.	47	100	61
(ii) boards all kinds	Th. tons.	27	100	64
(iii) newsprint and Mechanical papers. ..	Th. tons	42	100	50
4. Chemical Industries :				
(i) fertilizer (in terms of nutrients)	Th. tons.	118	765	195
(ii) soda ash.	Th. tons.	28	172	70
(iii) caustic soda	Th. tons.	15	90	35
(iv) sulphuric acid	Th. tons	16	600	45*
(v) petrochemicals	Th. tons.	—	330	10
5. Non Metalic Minerals :				
cement	Th. tons.	2,000	6,000	3,286
6. Basic Metal :				
steel	Th. ingot tons.	—	1,200	90
7. Machinery :				
(i) wire and cables	Th. tons.	4	35	20
(ii) heavy electrical equipment	Million Rs	N. A.	120	402
(iii) machine tools and heavy machinery complex.	Million Rs.	N. A.	262	90

* Excludes captive capacity.

Investment

7. The Investment in the Public Sector during the first four years of the Third Plan amounted to Rs. 2,123 million and is expected to reach Rs. 2331 million by the end of the Plan which is detailed by Industry group in the table below:—

Financial Targets and Achievements

(Government financed Sector-All Pakistan)

S. No.	Sub-Sector	Third Plan estimated expenditure						
		65/66 actual	66/67 actual	67/68 actual	68/69 R. E.	69/70 R. E.	Total estimated expenditure. 65-70	Revised Third Plan Allocation. 65-70
1.	2	3	4	5	6	7	8	9
1.	Food Manufacturing Industries.							
	(a) Sugar.	54.71	53.89	39.12	15.90	9.38	173.00	162.64
	(b) Edible oils.	—	—	—	—	—	—	4.86
2.	Manufacturing of Textiles.							
	(a) Jute	10.84	3.28	11.91	15.02	36.29	77.34	116.95
	(b) Cotton.	5.05	—	1.84	—	—	6.90	7.51
3.	Leather	—	—	—	—	—	—	—
4.	Wood & Cork.	0.60	5.11	5.54	5.44	15.78	32.67	64.59
5.	Paper and Paper Products.	11.12	15.08	41.67	36.20	33.37	137.44	254.36
6.	Printing and Publishing. ..	2.51	5.23	5.26	2.09	0.74	15.83	14.50
7.	Chemicals & Fertilizers. ..	15.92	41.31	116.73	160.91	137.53	472.40	801.84
8.	Products of Petro, Coal and Gas.	0.06	0.01	—	—	—	0.07	39.40
9.	Petrochemicals.	—	1.04	0.01	0.57	0.05	2.12	200.00
10.	Non-Metallic Minerals Products (Cement etc.) ..	22.19	42.69	25.62	62.98	75.59	229.07	150.02
11.	Basic Metal Products. ..	91.35	82.35	55.63	35.93	15.29	280.55	351.50
12.	Metal Product Industries. ..	0.48	—	—	0.10	2.15	2.73	54.87
13.	Machinery except Electrical.	14.94	45.08	104.17	181.16	87.48	432.83	37.29
14.	Electrical Marchinery and Appliances.	0.21	5.77	21.22	12.11	8.93	48.24	198.00
15.	Transport Equipment. ..	7.88	9.79	27.99	20.24	24.30	90.20	121.87
16.	Misc. Industries.	3.94	7.32	13.01	11.88	8.75	44.90	66.84
17.	Industrial Estates. ..	7.16	9.25	10.24	7.50	7.05	41.20	137.50
18.	Small Industries Promotional Schemes. ..	28.98	38.46	31.60	31.90	39.51	170.45	287.81
19.	Scientific & Industrial Research.	17.92	18.68	21.82	8.23	6.75	73.40	107.00
	Total ..	295 86	384.34	533.39	608.16	509.39	2331.14	3513.35

8. According to the Department of Investment Promotion and Supplies, the sanctions issued for large/medium and small industries in the private sector, between July, 1965 to December 1969, both under the CIS and PLI amounted to Rs. 5880 million as against the Plan target of Rs. 9,257 million. The break up of the estimated investment by December 1969 is shown in the Table below:—

TABLE

(Rs. in Million).

S. No.	Industry Group	Third Plan		C I I.S.	P.L.I.	Investment sanctioned upto Dec. 1969
		Original.	Revised.			
1	2	3	4	5	6	7
1.	Food Manufacturing.	590	595	745	212	550
2.	Beverage Industry.	10	9	10	—	1
3.	Tobacco Manufactures.	50	27	47	48	39
4.	Textile Industries.	2,400	2,193	3,272	2,223	2,404
5.	Footwear & wearing Apparatus.	50	61	67	32	23
6.	Wood & Cork.	22	91	22	10	6
7.	Furniture & Fixtures.	40	22	26	6	6
8.	Paper & Paper Products.	150	335	200	92	270
9.	Printing & Publishing.	32	46	64	23	50
10.	Leather & Leather Products.	39	45	64	37	18
11.	Rubber Products.	50	46	52	15	9
12.	Chemical including Fertilizers.	448	1370	1397	1,052	1,568
13.	Oil & Coal Products.	200	101	200	—	15
14.	Petro-chemical.	531	481	641	—	102
15.	Non-Metallic Mineral.	659	1,161	1,057	316	218
16.	Basic Metal Iodustries.	1,112	499	471	813	25
17.	Metal Products.	450	400	489	61	69
18.	Machinery except Eledtricals.	360	342	391	154	91
19.	Electrical Mactinery	226	179	303	74	76
20.	Transport Equipment.	369	474	461	82	83
21.	Miscellaneous Industries.	512	469	501	263	59
22.	Service Industries.		195	232	19	120
23.	Un-classified Industries.	—	146	176	50	76
	Total	8,300	9,287	10,885	559	5,877

Source: (Col. 5 to 7) Department of Investment Promotion and Su pplies, Karachi.

STRATEGY FOR THE FOURTH PLAN

9. As the Fourth Plan period will have crucial and permanent repercussions on the future industrialisation of the country and in certian ways will determine the pace at which a traditional economy can be turned into a modern and self-reliant economy, a special request was made to the world Bank last year to depute a special Mission of high calibre experts to survey the whole industrial scene and to advise Government on the most effective steps for a speedy and orderly industrialisation of the country consistent with the requirements of social justice with particular reference to the removal of inter-regional and intra-regional disparities, and on activising the private sector in that behalf. The Mis sion while emphasing the need for the optimum utilisation of existing under utilised capacity, particularly in the import-based industries, has underlined the fact that the country cannot rely indefinitely on its traditional industries like Cotton and Jute Textiles and a stage has been reached when, in the interests of attaining a self-sustaining economy, attention must turn in increasing measure to producer (engineering) goods industries. The paragraphs that follow take into account the recommendations of this Mission.

10. In the Fourth Plan period, the industrial sector faces two major challenges. First, it must grow rapidly enough and in such a manner as to permit a significant improvement in the consumption standards of the people. Second, it must generate a high rate of exports, and replace a large proportion of imports, so as to keep the foreign exchange gap within manageable bounds. However, even with a reasonably high rate of growth in exports, a major effort would be needed in import substitution in engineering goods and intermediate raw materials to keep the import bill from rising very fast. From these basic considerations flow a host of related implications that concern the size and growth of this sector, the product-mix, questions of efficiency and location, the role of direct and indirect controls and several other policies.

11. A notable feature of Pakistan's industrialiazation has been its export orientation. Betwen 1960 and 1968 aggregate exports have increased at an annual rate of 8 per cent, with virtually the entire increase coming from the side of manufactures. For some major items this has meant that Pakistan's exports grew much faster than world trade. As an example, during the last five years., Pakistan's exports of cotton textiles (yarn and cloth) increased at about 17 per cent annually, compared to a growth in world trade in thsese commodities of 2 to 3 per cent. In a number of cases this export growth far out stripped the growth of domestic pro duction For instance in 1964-65 about 21 per cent of cotton cloth production was exported; by 1968-69 this has risen to over 40 per cent. The inevitable concomitant of this prempting of supply by exports has been shortages in the domestic market and resultant pressure on prices.

12. For the Fourth Plan a slower growth in the exports of the major consumption items has been projected, while sizeable increases are planned in production-capacity. Thus, the increase in cotton yarn is projected at 59 per cent, sugar at 37 per cent, paper at 228 per cent, board at 134 per cent, and vegetable ghee at 88 percent and cigarettes at 100 per cent each over the benchmarks of 1969-70.

13. The industrial sector will, in the Fourth Plan, begin taking a longer-term view of its export possibilities, and this factor, too calls for a decreased emphasis on the traditional manufactures and necessitates a change in the productmix. So far Pakistan's chief manufactured exports have been the agro-based commodities, such as cotton and jute textiles, tanned leather and leather manufactures, etc. A number of studies, by both Pakistani and international agencies, have

shown that export prospects in these items are limited because of competition from other under-developed countries in the simpler lines and restrictions placed by the developed countries on imports.

14. This does not, of course, mean that we shall give up our efforts in the agro-based manufactures. It does mean, however, that during the Fourth Plan period the emphasis will be on improvements in quality and on moving towards the production of more finished items and those with a higher component of demestic value-added. Thus, a movement from cotton yarn to textiles and from textiles to wearing apparel would improve the composition of exports and give impetus to new industries. Similar possibilities exist in leather and other agro-based industries.

15. From a longer-terms point of view, it is clear that parallel with our efforts to expand the exports of agro-based commodities, and to expand their production for the domestic market, we shall have to start shifting the structure of production towards other lines in which we posses, or may reasonably be expected to develop, a comparative advantage. The studies referred to earlier have thrown up those engineering activities, such as the simpler mechanical, electrical and electoronic industries, which have a high input of labour dexterity, as the most likely candidates. A large and rapidly growing international market exists for these products, while a reservoir of the requisite man-power is already present in several areas of the country.

16. In its process of industrialization, Pakistan has consistently adopted an outward looking attitude and, as was discussed earlier, this policy will be maintained in the Fourth Plan It does not seem likely, however, that the growth of exports and the inflow of external resources will be sufficient to cover our import requirements. A major programme of import-substitution will be an integral part of the industrial strategy.

17. It is one of the country's normal expectations that industrialisation should to the maximum extent possible provide a base for ensuring defence and self sufficeney as reliance cannot always be placed on imports. A developing country like Pakistan with multipronged demands on its limited resources cannot afford at the same time to set up industry for purposes a of defence alone except in such matters as arms and ammunition. In respect of all other equipment and stores the industry in the civil sector must cater to the requirements for the defence of the country. This will be a hall mark of the strategy for future industrialisation in the country.

18. This programme will be geared to mesh in with the overall strategy of the Plan, and hence will lay the greatest emphasis on engineering products and intermediate goods. The proposals for expanding the steel and enginering industries have already been outlined. In addition, the policy will be to meet the entire demand from the agriculture sector for fertilizer (except potash fertilizer) from domestic production. The petroleum and petro-chemical industries will also be given substantial boost.

19. In the Fourth Plan we shall see the large-scale emergence of engineering output and the creation of a coordinated engineering industry in the country. First, the Chittagong steel mill capacity will expand from its present 150,000 tons to 2,50,000 tons. This work is already in progress. Second, a coastal steel mill of about one million tons capacity in West Pakistan will be set up of which it is expected that about 7,50,000 tons may be in operation by the end of the Plan. It is however, necessary to ensure an adequate supply of raw materials for these industries, and pending the setting up of the west Pakistan steel mill, the present

import projections assume that the major part of the domestic steel production will commence in the Fifth Plan period. Proposal for a second steel mill of half a million tons in East Pakistan will be firmed up in the Fourth Plan period.

20. The planned shift in the industrial structure will raise several other integrated problems. For one, in this new phase of industrialiazation, Government intervention will take on a more strategic and selective role, for now there will be a much greater need for the coordination of different processes, the standardization of products, the maintenance of quality and the correction of anomalies that may crop up between the treatment of different items,. Moreover the export of these new production will also call for new policies and a changed institutional set-up, for now problems of design, quality, reliability, running cost, and the extension of credit to purchasers may outweigh the simple consideratin of price-competitiveness that has so far been the hallmark of our export policies.

21. The new strategy will call for a considerable emphasis on improving efficiency. This is not only to enable us to compete effectively in world markets, but also to ease the burden on the domestic consumer, for costs of permitting inefficiency by excessive tariffs or subsidies have ultimately to be borne by him. To this end, the Plan will encourage investment for balancing and modernization rather than for the expansion of capacity. It will also aim at a greater availability of raw materials to permit fuller utilization of capacity. The question of the efficiency of public enterprise and the provision of specialized managerial skills will also be taken up.

Regional Cooperation:

22. The size of the market in some of the industries, particularly the sophisticated ones, has in the past frustrated plans for the development of these industries. Regional Cooperation between Iran, Pakistan and Turkey under which a start has been made with joint purpose ventures in the industrial field, will be resorted to in an increasing measure to meet this shortcoming and to accelerate the pace of industrialisation in the region. Joint-purpose ventures betwee Indonesia and Pakistan will also be encouraged.

23. The major objectives of the Fourth Plan's Industrial programme are mutually interdependent in the long run and all have high priority. An organized effort directed towards the achievement of these objectives requires that :

(*i*) Industrial investment must be made at a pace and of a composition which will ensure that output goals are met and that industrialization contributes its share to the G.N.P. targets.

(*ii*) A beginning must be made with the setting up of heavy industries notably industries to produce machinery and equipment and other capital goods.

(*iii*) To produce and market at stable prices the essential consumer goods and services for domestic consumers consistent with and equitable distribution of income and the growing disposable income of wage earners.

(*iv*) To increase productivity of existing industries; and

(*v*) To provide maximum employment opportunities consistent with economic production.

Criteria for Investment

24. No simple criterion can be laid down to govern all investment in industry. The overriding principle is to create a structure for the industrial sector which is

well-balanced internally and in relation to other sectors of the economy, through efficient utilization of investment and manpower resources and with the minimum of strains for the balance of payments. Within these constraints, the composition of new industrial investment must be determined by assigning the maximum weight to scarce factors, which at the present stage of the country's development are foreign exchange and capital. The availability of domestic resources is comparatively flexible and the manpower requirements can be augmented by imported skills or temporary substitution by less qualified workers.

Balance of Payment Criteria

25. Thus the first criterion emanating from the relative scarcity of foreign exchange relates to production for export and for import substitution. High priority must be given to such industries as can contribute to diminishing strains on the balance of payments even if some of these industries have long gestation periods and tie up considerable resources without contributing proportionately to the growth of output over the short run.

Value added and Return on Capital

26. The next important criterion is linked to the value added in the industrial process. The productivity of capital in the manufacturing process is directly related to the degree of fabrication which is much higher in capital goods than in consumer goods. This implies that the raw material input per unit of output is much larger in industries with low productivity which are generally consumer goods industries and considerably lower in sophisticated capital goods industries. Keeping in view the natural resource endowment of the country, there will be greater emphasis on industries whose raw material requirements are less and the value added higher. This criterion may be altered for industries which are necessary to set up to exploit domestic materials and natural resources.

Employment Criteria

27. The Employment criteria govern the choice between labour intensive and capital intensive technology. Maximisation of employment is not consistent with maximum efficiency of capital productivity in industries using modern technology. This is particularly so in certain industries where value added on account of modern technology is very high and for which a high degree of automation is essential. Ability to keep pace with technological changes and to benefit from increased productivity through automation in such areas is essential for the success of the country's effort for industrialization. There are however a number of industries in which the increase in productivity on account of modern technology is only marginal. Only by combining a policy of concentration on capital intensive technology in case of high productivity industries with highly labour intensive technology in other industries and almost all auxiliary services and facilities, will it be possible to achieve the growth targets of the economy without undermining the employment objectives.

Criteria for Industrial Sanctions

28. All sanctions of individual projects for loans by the financing institutions will be within the framework and the financial and physical ceilings of the Industrial Investment Schedule issued by the Government in pursuance of the Five Year Plan, as amended from time to time. Notwithstanding the above, financing institutions may provide rupee loans to meet over run of costs, of finance working capital for on-going projects as also to finance any new projects based wholly on indigenous capital equipment and indigenous raw materials.

29. In addition to the normal criteria that a project should be technically sound, economically viable and financially profitable, its larger impact on the national economy will be kept in view. For this purpose in analysing the project taxes and duties may be ignored and appropriate shadow prices adopted for inputs such as foreign exchange and labour. As a part of the scrutiny of projects, the formulae presented for determination of the impact on balance of payments, etc., will be made use of.

30. Wherever feasible, sub-contracting and subsidiary specialisation will be encouraged, and to achieve this end the growth of large composite and vertically integrated units will be discouraged.

Encouragement of indigenous capital goods Industry

31. Indigenous products of capital goods industry (whole plants or components) suffer in the main from unfair competition from cheaper imports of capital goods. This in many cases in the past was occasioned by anomalies in import duties and taxes which in the last analysis discriminated against local production. A Standing Committee on Fiscal Anomalies will recommend the removal of such anomalies as they are discovered and established and will also suggest measures for the improvement of the competitiveness of indigenous production. Apart from the liberalisation of import facilities for raw materials and components and the removal of fiscal anomalies, an other main encouragement which this industry needs is to be able to extend facility of credit for the sale of its products in the same manner as such facilities are available for the import of the same or similar goods. It will be the endeavour to remove these bottle-necks. The policy will be that such equipments or items thereof as are produced in the country up to acceptable standards are not imported under barter/aid/loans provided that the prices of local production are not exhorbitant.

Role of Public and Private sectors

32. As in the Third Plan, reliance will continue to be placed on private investment for the bulk of industrial investment during the Fourth Plan in West Pakistan other than the less developed areas. The role of Government, both at the Central and at the Provincial levels, will be to promote industrialisation through providing the climate and the infrastructure required for investment in manufacturing industries, and to resolve such conflicts as may arise between individual interests and national priorities. Public investment in manufacturing will be undertaken only in those cases where private capital is not forthcoming, where a joint venture cannot be organised or where considerations of national interest dictate public investment. In effect therefore investment in industries will be categorised into private sector industries in which there is no Government participation, industries which will be owned and operated jointly by Government and private enterprise and those which will be owned by Government alone.

33. In East Pakistan and the less developed areas of West Pakistan, however, the level of private investment in industry shows a short-fall of more than 50% for a variety of reasons. In addition therefore to providing the infrastructure through public sector investment, there will be during the Fourth Plan period a larger public sector investment in industrial projects also. Simultaneously effective steps will be taken by way of fiscal and other measures to improve the investment climate for the private sector in East Pakistan and the less developed areas of West Pakistan. The necessary measures have separately been announced.

34 By and large the proportion of Government investment to private investment in manufacturing industries during the Fourth Plan will be somewhat larger than in the Third Plan. This is occasioned by the need to accelerate the pace of

industrialization in East Pakistan and also to promote heavy industries notably manufacture of basic metals, production of machinery and fertilizers which are vital to the long term development objective of achieving a self-sustaining economy.

Broad basing of industrial ownership

35. The Third Plan underlined the need and suggested measures for ensuring the broad basing of industrial ownership. Unfortunately the matter was not pursued with the required vigour until 1969 and the concentration of economic power has accentuated the problem of social justice. For the Fourth Plan period, simultaneously with a plicy package for activising private investment, futher concrete measures which are now on the anvil to ensure this objective will be separetely announced.

Foreign Investment

36. (a) Government has provided liberal incentives to attract private foreign investment during the Plan period, foreign investment will continue to be encouraged in Industrial projects involving advanced technical know-how and managerial skills. Promotion of Foreign Investment in the Plan period will be the special responsibility of the Department of Investment Promotion and Supplies, Government of Pakistan. Where necessary, Government and Foreign firms joint-venture in the field of Complex Engneering and heavy capital goods will be considered. This in turn will mean close cooperation with foreign producers. This cooperation in the future may take many different forms, including interchange of part with foreign firms ; major international companies are able to deliver complete package of capital, technology, management and marketing capabilities including their own international sales net works.

(b) Cooperation of major international firms, where necessary, will be enlisted for development of Regional Industrial projects (RCD).

Location of Industry

37. The financing Institutions will encourage the establishement of new industries in East Pakistan and underdeveloped areas of West Pakistan to the extent feasible. The location for each project will be indicated in the sanction letter and no chang will be permissible without the prior approval of the financing institutions and the Provincial Government. Preference will be given to Industrial Units proposed to be set up in Industrial Estates created by the Government for decentralisation of Industries. Besides these general criteria, special considerations must determine the location of different kinds of industries. For some industries such as cement and steel, proximity to raw material is essential while for others factors such as availability of Mill labour and easy access of markets are more important. Export industries are better located near port towns but this factor must be weighed against possible advantages from proximity to raw material such as natural Gas or Power Supply. Subject to these considerations, industries will be sanctioned for locations where they will maximise contribution to economic growth on the basis of rational and pragmatic analysis.

Sanctioning Procedures

38. There is a distinct need for the streamlining of sanctioning procedures, so as not to frustrate private investment and at the same time to ensure the normal consideration of capacities to be sanctioned, the determination of the size of economic units and their locations. The Department of Investment Promotion and supplies which is the Central Government's prnciplal agency for promoting private investment along the planned channels will be suitably re-organised to cater effectively to the need for speedy decisions on investment proposals and for progressing and facilitating the actual investment in association with the Provincial Governments.

Standards and Quality Control

39. Improtant as the quality of industrial products is for domestic consumption, adherence to standards in export goods is of crucial importance. The Pakistan Standards Institution has made a start in standards and quality control by the preparation of some 600 national standards specifications for various food products, textile, chemicals and electrical and mechanical goods during the last five years. This is only a beginning and further accomplishments are urgently required. A scheme for putting certification marks on the products for which national standards have been prepared is in force. The standardisation programme will be intensified during the 4th Plan period. To assist industry in quality control laboratory facilities for testing will be provided. The adoption of the metric system of weights and measures will be promoted.

Productivity

40. Substantial improvement in productivity in industry is an urgent need. It is within reach but requires concerted effort. The Pakistan Industrial Technical Assistance Centre has during the Previous Plans rendered useful assistance to industry but by and large the work has been of " problem solving " type. During the 4th Plan period separate Productivity centres will be organised for Jute Industry and Cotton Textile Industry with UNDP/SF assistance from which teams of experts will be formed to conduct surveys and productivity studies fo various industry sectors and advise the industry on improving production methods, institution of controls, procedures and techniques for reducing wastage of meterials, improving equipment and machinery utilisation, reducing worker fatigue and improving the quality of products. These teams will initially be assisted by foreign experts but arrangements to train Pakistan personnel will be vigorously pursued.

Flow of Iaformation

41. A major factor hindering integrated industrial development is the inadequate and sporadic flow of information about industrial development in specific fields between the parties involved in industrialization. These parties include both private and public organisations, institutions, individuals and groups who directly or indirectly implement actual industrialization. High priority will be given in the Plan period to a systematic flow of current information between the financing institutions, the representative bodies of commerce and industry, the organizations created for assisting in project formulation like the Investment Advisory Centre and the Government organizations responsible for the formulation of industrial plans and their implementation. A specific step will be to issue a National Industries Directory providing information regarding existing industries, thier location, production capabilities and to up-to-date and re-issue such a Directory at least one a year.

Industrial Research

42. The pace of applied industrial research will be accelerated. Industry is a changing field and it behoves responsible and progressive elements in private industry to join hands with Government to ensurethat Pakistan keeps up with external development which may be used to advantage and also that the country contributes its own measure of research in the interest of greater productivity from Pakistan's industry. The imperative need for stimulating scientific and industrial research has been recognized by Government and a separate Division for Scientific and Technological Research has been set up The Council of Scientific and Industrial Research, which was established in 1953 has already developed a number of new processes for the optimum utilisation of indigenous resources. Some of these like the ones for the production of water proofing material for jute, water proofiing additive for cement light weight concrete, Vitamin-A concentrate from shark liver, dry distemper, printing ink, insulation board from

baggasse, chipboard from wood waste and synthetic marble are already in commercial uses. The Council already has its laboratoreis at Karachi, Dacca, Rajshahi, Lahore and Peshawar comprising 21 Divisions. During the Fourth Plan period the activities of the Council will not only be continued but its facilities will be expanded to undertake research on fuels, minerals processes, building materials, food technology, leather, etc.

Training :

43. Training is imperative for successful industiral development. The Plan proposes the strengthening of vocational schools and promotion of technical training within industrial units, private as well as public. The projects for heavy industries will include training programmes for key personnel, Institutes for technical education will be strengthened and existing Institutes improved. Students from regions with inadequate educational facilities will be given scholarships for technical training. Special emphasis will be laid on training and education in the field of management. For the training of existing management, the Government will support private efforts to establish an institure for management which will organize in-service training programmes and research. Industry will be given increase facilities for training their personnel abroad.

SmaII Industries :

44. The industrial mix in the country spans arrange from village and handicraft indudstries using no power to large industrial undertakings employing modern technology, substantial power and concentrations of high level manpower. For the purposes of the Plan Small Industries are defined as industries which employ manual laour but do not use any motive power or industries which use motive power and use fixed assets, other than land, valued at not more than Rs. one million.

45. In the Fourth Plan, the governing principles for the development of small industries will be :

(*i*) to adapt small industries to changing technological, economic and social conditions ;

(*ii*) to stimulate production of implements and equipment required for agriculture;

(*iii*)t to encourage the processing of indigenous raw materials;

(*iv*) to create additional employment opportunities ;

(*v*) to modernise such ex sting units as have sound economic prospects ;

(*vi*) to encourage the growth of cottage industries in rural areas generally, and in particular wherever resources and markets are availble.

(*vii*) to bring about a closer relationship between the small and larger industries, through the production of spares and accessories or components for large scale industry through providing facilities for the maintenance and repair of equipment in use in large scale industries or in other sectors of the economy; and

(*viii*) to preserve and promote traditional arts and crafts.

46. The Plan envisages a considerable expansio of the advisory and commercial services provided by the Government under the aegis of Small Industries

Corporation in each Province. A network of small industries service centres will be set up all over the country, supplemented by extension services including mobile extension units, to give techn cal and mangement advice. Where necessary, production facilities will be organised, for example common facility centres or small industries estates provided with transport, water, power and other facilities. Similarly a network of supply and marketing services will be set up, and credit services organized in co-operation with the banks.

47. The programmes proposed in the Plan visualize that new small and medium sized industries will be encouraged ; that sub-contracting, which implies that some large scale industries will buy systematically from smaller units will be fostered ; that small industries with prospects of advantageous development will be assisted, but that the aim will be not to perpetuate an uneconomic sturcture.

48. The promotional Government financed activities will fall in two broad categories :

(*i*) technical and management services, and

(*ii*) commercial services. Technical and management services will be provided along the following lines :

(*i*) Small Industries Service centres for selected industries will provide advisory service and demonstrations on technical processes and use and improvement of equipment, training in business management, research in use of indigenous materials, and surveys of industrial prospects.

(*ii*) Small industries extension services will serve areas where such industries are or can be concentrated; mobile extension services serve remote areas.

(*iii*) Pilot project will be set up to demonstrate possiblilities of new industries on an experimental basis.

(*iv*) A provincial design centre will undertake research on industrial design and handicrafts collaborating closely with existing art and crafts institutions.

49. Commercial services will perform the folloiwng principle functions :

(*i*) Production facilities, including common facilities centres and mobile common facilities units and small industrial estates. These production facilities may have to be started by the Corporations but will be transferred to private or cooperative enterprise as soon as possible.

(ii) Supply and marketing services, including sales and display centres to market small industries products and display modern designs, patterns and suitable equipment ; grading and inspection to ensure standardized quality of products ; and supply of mateiral and equipment, especially imported supplies which will be sold to small industries by the Corporations to the extent necessary.

(*iii*) Credit services, including loans for modernization and extension and credit for purchase of raw materials and for marketting . The cooperation of existing financial institutions will be enlisted, but direct credit in kind (raw materials or pre-payments of products to be marketed)

and to a more limited extent, to finance equipment on a hire-purchse basis, will also be provided by the Corporations.

FOURTH PLAN DEVELOPMENT PROGRAMME

50. The precise composition of the development programme for a period of five years cannot be predicted in advance. Nor would it be realistic to give breakdowns of investment and production targets separately between small, medium and large scale units in the different industries. Rigidity of investment targets may tend to freeze the pattern of development and may militate against the fulfilment of the production goods as a whole. At the same time, a number of investigations and studies on the need and prospects for the development of specific industries are presently in progress. Measures for regional economic co-operation between Pakistan, Iran and Turkey will also cover co-operation in the field of industry. It is too early at this tage, to clearly identify the industrial relationships and complementatries which it will be necessary to provide for in the industrial programme in the region, but indications are that such fields as petro-chemical a wide range of capital goods and industries for the manufacture of transport equipment will lend themselves to regional co-operation. This may require adjustments in the industrialization programme envisaged in the Plan at this stage. Tangible agreements arrived at through the Regional Co-operation for Development will be implemented by appropriate changes in the compositions of the Annual Development Programmes and the Industrial Investment Schedules.

51. The Annual Development Programmes for the Government financed investment and the Industrial Investment Schedules in the private sector investment will set out in detail the investments that should be made in each sub-sectors and individual industries within the framework of the Plan. The Investment Scheudle will also indicate the quantum of investment that should be made through setting up of small industry units. The performance both under the Annual Development Programme and the Industrial Investment Schedule will be reviewed annuall and such adjustment as may be necessary made in the ensuing year.

52. The table below sets out the investment which should be made in the *public sector* in the various groups of industries, in promotional activities and in scientific and industrial research in line with the Plan objectives and policities. In the light of the performance of the *private sector* during the Third Plan period, and in view of the policy package that is being introduced for activising private sector investment in East Pakistan and the less developed areas in West Pakistan, and taking into account the over-run of projects sanctioned during the Third Plan but the bulk of the investment against which will be made in the Fourth Plan period, this Plan makes a provision of Rs. 3250 million for investment by the privte sector in East Pakistan and Rs. 6450 milliion in the four Provinces of West Pakistan This will mean almost a doubling of the level of privte investment in East Pakistan and an approximate 50% acceleration in the Western Wing as a whole as compre to the Third Plan performance. These allocations will however not be allowed to hinder a larger investment effort in the private sector particularly in East Pakistan and in the less developed areas of West Pakistan for so long as the investment is in line with the Plan priorities and policies. The paragraphs that follow show in brief the present stage of development in each group of industries in terms of the principal industries contained in the group, the direction for future development and the tentative projected investment in the principal industries. The Industrial Investment Schedule to be published separately will specify the actual capacities already authorised in each industry, the investment and physical targets planned for individual industries as also the extent to which investment should be in terms of small and medium sized units in the private sector either without or in collaboration with public sector investment.

Investment in Government Financed Sector

(In million rupees)

Industry Group	Government Investment		
	East Pakistan	West Pakistan	Total
1. Food Manufacture	40	20	60
2. Beverage	—	—	—
3. Tobacco Manufactures	—	—	—
4. Manufacture of Textile	400	—	400
5. Footwear and Apparels	—	—	—
6. Manufacture of Wood and Cork	—	50	50
7. Furniture and Fixtures	—	—	—
8. Paper and Paper products	300	—	300
9. Printing and Publishing	—	23	23
10. Leather and Leather goods	5	—	5
11. Rubber Products	—	—	—
12. Chemical Industries	250	150	400
13. Product of Ptroleum coal and gas	—	25	25
14. Petrochemical industries	900	—	900
15. Non-metallic mineral products	100	50	150
16. Basic metal industries	180	355	535
17. Metal products industries	5	175	180
18. Machinery except Electrical Machinery	150	140	290
19. Electrical machinery apparatus and applicances ..	200	130	330
20. Transport equipment	150	30	180
21. Miscellaneous industries	25	36	61
22. Industrial estates	150	4	154
23. Training	10	5	15
24. Small Industries Promotional Programme	180	75	255
25. Scientific and Industrial research	75	75	150
Total ..	3,120	1,218	4,338

53. The total figure of Rs. 4338 million of public sector investment includes an investment of Rs. 538 million by the Central Government as shown below :

Central Government Investment by Location

(In Million Rupees)

	East Pakistan	West Pakistan	Total
(*i*) Scientific and industries research	75	75	150
(*ii*) Printing and Publication	—	23	23
(*iii*) Schemes for technical Assistance and for increasing productivity	45	320	365
Total ..	120	418*	358

*Central Government allocation in West Pakistan is proportionately higher because of investment in (*i*) Steel Mills (*ii*) Karachi Shipyard

A part from Rs. 538 million for industries under the Central Government, Rs. 80 million have been allocated for Special Areas.

FOOD MANUFACTURING INDUSTRIES

Sugar Industry

54. A target of 640,000 tons for the production of white sugar by 1970 was set for the Third Plan. Actual production in 1969-70 is estimated at 7,30,000 tons out of which 6,00,000 tons in West Pakistan and 1,30,000 tons in East Pakistan thus exceed ing the plan production target by 90,000 tons. This has been mainl due to favourable agronomic conditions in West Pakistan in 1969-70 sugar season A target of 10,00,000 (one million) ton of white sugar is set for the Fourth Five Year Plan in consideration of the changing habits of the people, the growing urbanisation higher domestic consumption of white sugar and moderate prospects of export of white sugar under export bonus incentive. The Plan envsiages that about 7,50,000 tons would be produced in West Pakistan and 2,50,000 tons in East Pakistan.

55. The production target for East Pakistan is proposed to be achieved by balancing and modernisation of existing sugar mills and increasing the sugar content in cane by replacement of the deteriorated varieties by activating sugar cane Research Institute at Iswardi (Panba), improved methods of cultivations, improvement of transport condition in Mill Zones, specially the road net work.

56. Expansion of sugar capcity in West Pakistan to meet the Western Wing's production target of 750, 000 tons in 1974-75 togetherwith the requirements for export of sugar when such reqirements are established will be in the private sector. Only one exception will be made during the plan period and that will be the setting up of a sugar mill by WPIDC with Chinese assistance. Apart from adding to the existing installed and sanctioned capacity of about 523,000 tons in West Pakistan by about 10 to 15 thousand tons sugar per annum, this mill to be set up by the WPIDC will be the fore-runner of the production of sugar plants within the country so that the country will reach self-sufficiency in the manufacture of sugr plants for its future requirements. In sanctioning any new sugar mills for West Pakistan care will be taken to ensure that the setting up of such additional mills does not militate against the projected increased in the cultivation of cotton and the export of cotton and cotton textiles.

57. The achievement of the target projected for 1975 will increase the domestic consumption of white sugar from about 10 lbs. *per capita* per annum in 1969-70 to 13 lbs. *per capita* per annum by 1975. The Plan envisage that the gap between consumption and local production of white sugar in East Pakistan will be met from supplies from West Pakistan.

58. The investment for creating new capaicity as also for balancing modernisation and replacement of existing machinery in some of the sugar mills is estimated at Rs. 120 million.

Edible Oils and Vegetable Ghee

59. Hydrogenerated Vegetable Oil (Vegetable Ghee) is the main cooking medium in West Pakistan and mustard oil is the principal cooking medium in East Pakistan. In both cases domestic production fall short of national requirements thereby making the country to rely substantially on imports of edible oils both for consumption as well as production of vegetable ghee.

60. The Third Plan proposed a target of 140 thousand tons of vegetable ghee. Production in 1969-70 is estimated at 160 thousand tons (9 thousand tons in East Pakistan and 151 thousand tons in West Pakistan). These figures are, however, not indicative of the country's self-reliance in the production of vegetable ghee because production has been possible only through imports of oil to the extent of one lakh tons in 1969-70.

61. During the Fourth Plan period the production of vegetable ghee is projected to rise up to 300,000 tons in 1974-75 (25 thousand tons in East Pakistan and 275 thousand tons in West Pakistan). Concerted efforts will be necessary in the Agriculture Sector to step up the production of cotton seed and other edible oils. In order that the dependence on imported oil is further reduced, the Plan envisages the setting up of capacity for the production of refined corn oil for which the principle raw material, Maiz, is available in abundance. A campaign to popularise the use of corn oil and to bring its prices at par with vegetable ghee, simultaneously will be necessary.

62. The production of Mustard oil for East Pakistan is planned to increase from 170 thousand tons in 1969-70 to 270 thousand tons in 1974-75. This however, will not be enough.

63. To encourage the use of coconuts grown in East Pakistan for the production of copra, coir and coconut oil, and copra dryers will be established and equipment for the extraction of coconut oil installed.

64. An investment of Rs. 70 million with foreign exchange component of Rs. 35 million is provided to modernise the edible oil industry and for balancing, modernization and expansion of delinting equipmnt and solvent extraction plants. The Small Industries Corporations will sponsor the necessary investment for improved utilization of coconuts and modernisation of small oil crushers within this total allocation.

Tobacco Manufacture

65. The sanctioned and installed capacity of Cigarettes at the close of the Third Plan period stands at 65,142 million on double shift basis (36,542 million in West Pakistan in 23 units and 28,600 million in 25 units in East Pakistan).

66. Estimated production of cigarettes in 1969-70 is 40,000 million cigarettes (18,000 million in East Pakistan and 22,000 million in West Pakistan). A production target of 80,000 million cigarettes has been set for 1974-75. Half of the increase in the Plan period will be in East Pakistan. The proposed increase will

be limited to the production of cheaper varieties of cigarettes to replace Bidis which require foreign exchange expenditure. In view of the fact that a larger number of small/medium scale units have been set up in East Pakistan and these units are finding it extremely difficult to become economically viable in the highly competitive market. Therefore, new cigarettes manufacturing capacity in East Pakistan will not be sanctioned in the Plan period. However, more efficient small units would be allowed to expand to make them economically viable within a reasonable period of time. In West Pakistan while no new unit will be sanctioned, balancing and modernization would be allowed to achieve higher efficiency and lower production cost.

67. The bulk of tobacco both flue curedand air cured used in the manufacture of cigarettes originate in West Pakistan and cigarette factories in East Pakistan are by and large dependent on supplies of flue cured virginia tobacco from West Pakistan. It is proposed that the Pakistan Tobacco Board would try to augment production of flue cured tobacco in East Pakistan to meet the needs of loal manufacurued and reduce the cost in small scale cigarettes factories in East Pakistan. A Cleaning, Classifying and Re-drying plant of a capacity of 2,500 lbs. of tobacco leaf/hour is proposed for East Pakistan.

68. The Plan propose a total allocation of Rs. 35 million with a foreign exchange component of Rs. 20 million for this industry. Of the proposed investment of Rs. 35 million ; Rs. 12 million is allocated to West Pakistan for balancing and modernisation of existing units and Rs. 23 million allocated to East Pakistan for balancing, modernisation and expansion of existing small units and for tobacco processing plant.

69. Cigar and cheroots have an installed capacity of 15 million. A provision of Rs. 1 million is made for balancing modernization and expansion of existing cigar making units in East Pakistan.

Tea

70. The Third Plan proposed a production target of 74 million lbs. of tea and estimated production of Tea in 1969-70 is 68 million lbs. A production target of 90 million lbs. has been set for 1974-75. The area under mature Tea by the end of the Plan peiod is estimated at 1,08,000 acres and it is hoped that the country will be self-sufficient in Tea production if good weather conditions prevail in the Plan period.

71. Tea processing and blending capacity will be increased through modernisation and belancing of existing units and through expansion. Production of machinery and spare parts for Tea processing industry will be encouraged in the Plan period.

72. The Plan proposes a total allocation of Rs. 50 million with a foreign exchange component of Rs. 20 million in Private Sector for the Tea Industry. Of the proposed investment of Rs. 50 million, Rs. 5 million is alloacated to West Pakistan for balancing modernization and expansion of Tea Blending and Packing units.

MANUFACTURE OF TEXTILES

73. The national *per capita* consumption of cotton cloth is estimated at about 12 yards in 1969-70. The domestic consumption is projected to increase to about 15 yards *per capita* in 1974-75, the major share of increase is projected for East Pakistan where in the past consumption has been low for a variety of reasons. The total yarn required for the production of cloth for domestic consumption will be 567 million lbs.

74. The consumption by ancilliary industries notably Hosiery and other knitted goods, thread, laces, braids specialised textiles is projected to increase from estimated 100 million lbs. in 1969-70 to 170 million lbs. in 1974-75 (70 million lbs. in East Pakistan and 100 million lbs. in West Pakistan).

75. Projected export of mill made cloth is 6000 million yards or; 173 million lbs. in terms of yarn (10 million yards of cloth equal to 3 million lbs. of yarn is proposed to be exported from East Pakistan and 590 million yards of cloth equivalent of 170 million lbs. of yarn is proposed to be exported from West Pakistan). In addition, export of 190 million lbs. of yarn is expected by 1974-75 of this quantity 180 million lbs. in expecteed to be exported from West Pakistan and 10 million lbs. from East Pakistan. Earnings from yarn in terms of foreing exchange are marginally higher than export earnings of corresponding quantity of raw cotton. The export of cloth to the extent possible will be preferred.

76. The total production of yarn by 1974-75 should thus be 1100 million lbs. Ideally, the spindles should operate three shifts at an efficiency of about 95%.

77. Presently 0.8 million spindles in East Pakistan and 2.73 million spindles in West Pakistan stand installed. To achieve the plan target of 1100 million lbs. of cotton yarn, additional 1.62 million new spindles will be installed (1.55 million spindles in East Pakistan and 0.07 million spindles in West Pakistan). Should the export prospects brighten further for cotton yarn and cloth suitable-additional expansion in capacity will be made in West Pakistan. A provision of Rs. 1182 million is made in the Plan for this purpose @ Rs. 730 per spindle investment.

Cotton looms :

78. It is an assumption of the Plan that out of the total of 2838 million yards of cloth that may be required for domestic consumption at a national *per capita* consumption of 18 yards, 1704 million yards will be supplied by handlooms and decentralised power looms sector (950 million yards in East Pakistan and 750 million yards in West Pakistan). To achieve the Fourth Plan target for mills sector produced cotton cloth 79,400 looms are required out of which 41,500 looms (6900 in East Pakistan and 34,600 in West Pakistan) are installed at the end of the Third Plan and Fourth Plan provides for balance of 37,900 looms (26,900 looms in East Pakistan and 11,000 in West Pakistan) at an investment of Rs. 682 million @ Rs. 18,000 investment per loom.

79. The balancing and modernization of the existing industry and the replacement of obsolete spinning and weaving equipment particularly for production for export is a vital requirement of the Plan and will receive priority in investment. Investment will also be made in the modernization of the hosiery and knitted goods industries and in the promotion of industries for the production of specialized textiles and for laces, tapes, and for dyeing, printing and finishing. A provision of Rs. 500 million is made in the Plan for these purposes.

80. The handloom sector in the textile field has a large potential for employment and properly organized for fair sized exports. Special attention will be given to the problems of the handlooms under the Small Industries Programme, particularly to ensure adequate supply of raw material, proper finishing of the handloom product and assistance in marketing.

81. A Cotton Textiles productivity centre is being set up at Karachi with a sub-centre at Dacca by the Government of Pakistan with the assistance of UNDP/SF for improving the production efficiency both in terms of quantity and quality and up grading the skills of Cotton Mills supervisors and Managers.

82. The majority of the existing ginning facilities are obsolete and would be replaced by modern sawgins. The replacement programme should also include concentration in larger ginning factories to replace scattered small ginning plants so as to profitably handle the projected production of 4.31 million bales in 1974-75.

Woollen Textiles Industries

83. The present sanctioned capacity of the industry consists of 20,000 woollen spindles and 42,000 worsted spindles and a bout 800 wrosted/woollen looms. The first large and modern woollen mill in East Pakistan with 3200 worsted spindles and 40 worsted looms will be in operation in Fourth Plan period. When this mill goes into production the requirement of woollen textile in East Pakistan would be met internally to a large extent. The sanctioned capacity, if fully worked, will be adequate for the Fourth Plan requirements. The estimated requirement of woollen textile in 1974-75 are as follows:—

Total Yarn	Cloth	Carpets and Rugs	Blankets	Other products
(m/lbs.)	(m/yds.)	(m/nos.)	(m/nos.)	o/lbs.)
21.0	10 0	3.0	1.0	3.0

84. The total requirements of raw wool to meet the above forecast demand would be about 25.0 million lbs. This would compare with the current figure of about 19—20 million lbs. On the basis of the past pattern of consumption, the industry may require over 6 millon lbs. of imported wool (including yarn and tops) and 19 million lbs. of local wool.

85. Keeping in view the domestic output of raw wool, its increased industrial consumption in Fourth Plan period is likely to create shortage of export-able surplusof raw wool unless concrete steps are taken in Fourth Plan period to achieve a production increase in wool of 5 to 6 million labs (clean content). If possible, the entire increase should be in superior quality of woo l so that the import dependent of this industry can be reduced.

86. The cost and price structure of woollen industry is proposed to be throughly reviewed and attempt made to bring them in line with international cost/price. This step would enable the country to rapidly increase its export of carpet and rugs as well as to make a beginning in the export of other woollen products also. The country should also remain alert to changes in carpet designs and fashions so as to incorporate them in our carpets. Since the woollen textile industry is an agro-based industry there is little or no agro-industrial cooperation between it and the raw wool producers. However, it is high time that a proper beginning in this direction is made in this field. This problem, of course, could not be tackled overnight.

87. While new capacity will not be sanctioned during the plan period, facilities for the balancing and modernization will be provided. Units using in the main indigenous raw wool with or without an admixture of imported wool or synthetic fibres or supply yarn to carpet industry will be the first to receive encouragement. It is proposed to establish a Wool Bureau which will be responsible for trade promotion, education scientific and technological research publicity, and information relating to the wool industry.

88. A provision of Rs. 3 million is made for modernization of existing mills.

Synthetic Fibre (Artificial Silk) weaving Industry

89. A present threre are over 375 factories with a total of 12, 500 power looms and 32,000 hand looms engaged in the manufacture of Art Silk fabrics with an estimated annual capacity of about 170 million yds. of art silk cloth. The art silk industry depends substantially on imported yarn as the viscose Rayon plant at Kaptai, East Pakistan and the Acetate Rayon plant near Lahore in West Pakistan are unable to meet the entire demand for art silk yarn by the art silk industries.

90. At the close of the Third Plan period the country's total capacity for manufacture of Nylonyarn will be 2,350 tons (1300 tons in East Pakistan and 1050 ton in West Pakistan) and viscose and acetate Rayon 6000 tons (3000 tons viscose yarn in East Pakistan and 3000 tons acetate yarn in West Pakistan). As against the current estimated requirements of 18000 tons of art silk yarn, the installed capacity is 7350 tons indicating a gap of 10,650 tons. During the Fourth Plan period requirements of synthetic yarn are expected to be of the order of 25000 tons. Studies are now in progress to develop additional capacities for synthetic fibre yarn through the development of petro-chemical industries.

JUTE MANUFACTURES

Hessian and Sacking

91. A target of 8 lakh tons for the production of hessian and sacking by 1970 was set for the Third Plan, for which 25,000 looms were expected to be in full operation. Actual production in 1969-70 is estimated at 6 lakh tons and number of looms in operation is about 23582. The export of jute goods increased from 316478 tons in 1965-66 to 525368 tons in 1969-70. The shortfall in the production targets is due to various reasons *viz*; suspension of US aid to Pakistan, followed by the Indo-Pakistan War of September 1965, dearth of foreign credit to import jute looms and auxiliary machinery, labour strikes, political disturbances and a deterioration in private investment climate.

92. A target of 1 million tons composed of 790,000 tons of hessian and sacking and 210,000 tons of broad looms products 8.50 lakh tons for export and balance of 1.50 lakh tons to meet the domestic demand) is set for the Fourth Five Year Plan; keeping in view the world demand of jute goods as estimated by the World Bank and the FAO by 1974-75 and the likely share of Pakitan in the world export market and domestic requirements of jute goods. The Plan envisages that about 750,000 tons of hessian and sacking will be produced in East Pakistan and 40,000 tons of hessian and sacking in West Pakistan. Production target indicated for West Pakistan is based on the loomage already installed during the Third Plan period. The Plan envisages the gradual change of hessian and sacking looms from 60 : 40 to 75 : 25.

93. The Plan target is proposed to be achieved mainly by balancing modernisation and expansion of existing smaller units and increase in the existing production efficiency by 10% over the Plan period and possible introduction of third shift of the hessian looms. To achieve the plan production target of hessian and sacking 31,000 of conventional looms should be in operation and to achieve the broad loom products target 4000 broad looms should be in full operation by 1974-75. In order to achieve the production target of the Plan 5.5 to 6.0 million bales of raw jute will be required for mill consumption. Besides, 3 to 3.5 million bales of raw jute will be required to meet export demand.

94. Additional investment during the Plan period to get 31,000 conventional looms and 4000 broad looms in operation by 1975 is estimated at Rs. 899.5 million, of this investment of Rs. 899.6 million, Government investment through EPIDC is projected at Rs. 480.00 million.

95. The jute industry is now facing competition with man-made fibre particularly with Polypropelene. This necessitates research for finding out new uses for jute. A centre for conducting research to find out new uses for jute and to increase the production efficiency in jute industry and to upgrade the skills of jute industry managers and Supervisors will be set up at Dacca by the Government of Pakistan with assistance from UNDP/ Special Fund in the plan period.

96. A plant has already been set up to assemble and progressively manufacture jute looms in East Pakistan in the private sector (M/s Gulfra Habib) and it is expected that actual fabrication of jute mill machinery will be taken up in the plan period to gradually reduce country's dependence on foreign sources of supplies of jute looms/spares and auxiliary equipments.

97. In order to handle rationally and in a systematic fashion the complex problems involved in the expansion of its jute industry, East Pakistan needs a master plan which would cover all its aspects, from production, pricing and distribution of raw jute to coordination of investment plans for an optimum finished product-mix and external market strategy. A part of this plan would be to attract the manufacturers of jute products in the developed countries to invest in the development of Pakistan's jute industry, thus minimizing the pressure on product pricesand benefiting to the maximum from foreign experience in techniques of production, management, marketing, finance and research; in such a combination, foreign producers could operate the sales and finance network in their countries, while gradually shifting processing facilities to Pakistan. This development could also be linked with the promotion of production of jute mill machinery in Pakistan, of which beginnings have already been made.

Writing, Printing and Packing Paper

98. The Third Plan proposed a production target of 100,000 tons of various kinds of papers and estimated production in 1969-70 is 61,000 tons of writing, printing and packing paper. Keepint in view the educational and insdustrial programme envisaged in the Fourth Plan, a production target of 200,000 tons of writing, printing and packing pap has been set for 1974-75, 100.000 tons in East Pakistan and 100,000 tons in West Pakistan.

99. For creation of capacity for the additional production Rs. 240 million with a Foreign Exchange Component of Rs. 144 million is provided in the Plan.

Board All Kinds (Chip Board, Hard Board, Card Board, Duplex Board etc.)

100. The Third Plan proposed a production target of 100,000 tons of various kinds of boards and estimated production in 1969-70 is 64,000 tons of various kinds of boards. Keeping in view the house building programme and industrial programme envisaged in the Fourth Plan a production target of 150,000 tons of various kinds of boards has been set for 1974-75; 50,000 tons in East Pakistan and 100,000 tons in West Pakistan. For creating of capacity for additional production the Board industry will utilise wood waste, waste paper, straw, saw mill dust etc. indigenous raw materials to meet the needs of a growing industrial society. The estimated cost for additional capacity in the Fourth Plan period is Rs. 50 million with a foreing exchange cost of Rs. 25 million.

News Print and Mechanical Paper

101. The Third Plan proposed a target of 100,000 tons of news print and mechanical paper and estimated production in 1969-70 is 60,000 tons. Keeping in view the educational and urbanisation programme of the Fourth Plan and also export prospects for newsprint a production target of 75,000 tons has been set for 1974-75; 65,000 tons in East Pakistan and 10,000 tons in Wtes Pakistan. For

creation of capacity for additional production an estimated investment of Rs. 80 million with a foreign exchange component of about Rs. 48 million is provided in the Plan.

Pulp

102. The Plan provides for setting up a 30,000 tons pulp mill in Sylhet, East Pakistan based on bamboo, reeds and jute waste to produce long fibred chemical pulp for admixture with short fibred pulps by the paper and newsprint mills. This will help to reduce the country's dependance on imported pulp.

103. Action has been initiated to produce export oriented project for a pulp mill of 50.000 tons based on jute cuttings. The proposed project will be set up in East Pakistan, for which estimated total investment cost has been provided in the Plan *i.e.* Rs. 200 million with foreign exchange component of 110 million.

Leather and Leather Products

103. Hides and skins contribute substantially to country's foreign exchange earnings. These earnings will be substantially increased during Fourth Five Year Plan by tanning greater proportion of hides and skins according to European and American specifications. At present there is less demand for Pakistani finished leather in international markets as compared to leather in wet blue condition due to poor finishing techniques adopted by the existing tanneries. Foreign Exchange earning should be more increased by careful handling and by utilization of by-products and diversification in production of various kinds of leather, like glove and garment leather. Setting up of some export oriented modern tanneries and balancing and modernization of existing units will be encouraged in the plan period.

104. Export of leather in the form of leather goods is a promising possibility. With technical advice on design and quality, small units can manufacture excellent leather goods such as bags, wallets, belts and fancy leather goods for which there is a large export market. The Small Industries Corporations will devote attention to strengthening the leather goods industries.

105. The foreign exchange earnings through the export of raw hides and iskns, leather, leather goods and footwear was Rs. 200 million in 1969-70 and is projected at Rs. 300 million in 1974-75. An investment of Rs. 50 million for large modern export oriented units and Rs. 10 million for small units is envisaged during the Plan period. Moreover, investment of Rs. 30 million for balancing and modernisation of existing tanneries and leather goods industries is provided in the Plan.

106. The Pakistan Council of Scientific and Industrial Research Laboratories at Dacca has established a leather Research Cell to conduct research for improvement in the production of finished leather and to find out new uses for leather and industrial utilization of leather industry by-products.

RUBBER PRODUCTS

Tyres and Tubes & Retreading

107. The present capacity for bicycle tyres and tubes is about 4 million pieces. In addition to meeting the national requirements, the industry exports bicycle tyres and tubes. In late 1965, there was production capacity of 2.79 lakh pieces of tyres for motor cycles, scooters, card and heavy vehicles and 3.15 lakh tubes. Additional capacity for 1.5 lakh tyres and 4.5 lakh tubes was proposed to be created in West Pakistan and for 0.75 lakh tyres and tubes in East Pakistan

during the Third Plan period. Capacity for retreading 30,000 tyres exists in West Pakistan and 26,000 tyres in East Pakistan. It was planned to expand this capacity by 500,000 pieces in West Pakistan and 130,000 pieces in East Pakistan through setting up small retreading units during the Third Plan period.

108. The investment on the above expansions was estimated at Rs. 25 million, Rs. 10 million in East Pakistan and Rs. 15 million in West Pakistan. Development of further capacity as envisaged in the 3rd Plan period could not be realised because of considerable imports of tyres and tubes under barter and also of the difficulties which the General Tyres and Tubes Factory faced during the said period. Domestic production of tyres and tubes particularly of cars, trucks and tractors etc. lag far behind the requirements of these items.

109. While optimum utilisation of installed capacity for production of tyres and tubes for various purposes would be accorded high priority but the domestic production of tyres and tubes for cars, trucks, buses, tractors etc. will fall short of requirements during the Fourth Plan. Provision has therefore been made in the private sector for creation of further production capacity through expansion of the existing units and by setting up of new economic size unit in the country. Balancing and modernisation of the existing units will also be encouraged during the Fourth Plan period.

CHEMICAL INDUSTRIES

110. In the Third Plan a provision had been for about Rs. 1470 million which included about Rs. 1022 million in the Government financed Sector for development of Chemical Industries.Of the proposed investment 'about Rs. 885 million were to be spent in East Pakistan and the remaining 'about Rs. 585 million in West Pakistan.

111. In the Government financed sector investment in Chemical Industries is expected to be of the order of about Rs. 470 million. Investment of about Rs. 1568 million has been authorised for development of chemicals including fertilizer industries in privte sectors.

112. Inspite of the fact that efforts to create further capacity for production of various kinds of chemicals continued both in the Public and Private sector during the Third Plan, imports of Dye-stuffs and Pharmaceutical products had to be made in order to meet the requirements of such chemicals. Imports of such chemicals during the last 4 years, had been as indicated below which do not include imports of fertilizers :—

Imports of Chemicals, Dyestuffs and Pharmaceutical Products into Pakistan during 1965-66 to 1968-69

(Value in Million Rupees)

Commodities	1965-66	1966-67	1967-68	1968-69
Organic chemicals	17.56	29.17	28.66	57.41
Inorganic chemicals	36.19	68.97	57.25	17.99
Radio and Associated Materials	0.21	1.07	0.28	0.06
Mineral Tar	3.88	6.62	3.00	1.32
Synthetic Dyestaff, indigenous and colouring materials	36.09	51.20	43.81	55.92
Dying and Tanning materials	9.54	14.34	8.37	6.81
Pigments, Paints, Varnishes etc.	18.74	22.11	11.68	N.A.
Medical and Pharmaceutical products	71.43	81.61	76.19	86.98
Total ..	194.34	275.09	229.24	226.49

Source : CSO

Soda Ash

113. Pakistan has abundant raw materials (common salt, gas, limestone etc.) required for soda ash production and can produce at a cost competitive in the international market, thus presenting an export potential. Consideration will be given to the new process developed for production of soda ash by using common salt, natural gas and limestone which results in the production of ammonium chloride choride (a fertilizer) as a by-product which has an export value. This fertilizer is much in demand in Japan, Korea and other Far Eastern countries. Soda ash is required for the production of glass, sodium silicate, caustic soda, textile finishing, and clothes washing. The existing two units both in West Pakistan have a rated production capacity o 78,000 tons per year. Production of soda ash during 1969-70 is estimatedat' about 70,000 tons. As the production lagged behind the ever increasing requirements of soda ash, the domestic price went up in spite of the limited imports which had to be allowed from time to time during the Third Plan period.

114. In East Pakistan a provision was made in the Government financial sector to create production capacity of 36,000 tons per annum during the Third Plan but it could not materialise as the investigations and feasibility reports could not be completed in time. A provision for 200 tons a day soda ash-*cum*-Ammonium Chloride plant which will produce 40,000 tons of soda ash in 1974-75, has been included in the Fourth Plan in Government financed sector.

115. Keeping in view the requirements of soda ash and its export prospects a production target of 160,000 tons for 1969-70 for West Pakistan has been fixed. A part of the production target may be attained through expansion and balancing and modernization of the plant at Gharo.

Caustic Soda

116. The main raw materials for the production of Casutic Soda are salt and electricity. These are both available in the country although high quality salt may have to be supplied from West to East Pakistan. The main difficulty in the development of this industry is the fact that, in the most economical process for the manufacture of Cuastic Soda, Chlorine is obtained as a by-product and demands for this are limited.

117. The basic chemical is primarily used in the production of soap, paper, viscose rayon and a number of other industries.

118. Both in East and West Pakitan, Caustic Soda plants are not operating at full capacity due to frequent power failures. It is dubtful, if under present conditions, they can be considered to operate at better than 300 day capacity *i.e.* 90% of the standard 330 day capacity.

119. The Country has installed capacity of about 42,000 tons of Caustic Soda per annum as against the production target of 90,000 tons for 1969-70 in the Third Plan. Consequently shortages and high prices of caustic soda were experienced during the last plan period. In order to meet the requirement of caustic soda, imports had to be allowed to feed the industries and also to keep down the prices which at times shoot up according to newspapers as high as Rs. 3,000 to 4,000 per ton of caustic soda.

120. In addition about 72,000 tons capacity stands authorized at present. Of this about 45,300 tons is in East Pakistan included in the plant of Industrial Chemical Complex at Asjuganj based on natural gas and the balance 13,200 tons is included in the Fauji Foundation Petro-Chemical Complex at Karachi. At

present 16,800 tons caustic soda plant is under erection/installation and is expected to be in production in the near future.

121. The Fourth Plan provides for a production target of 120,000 tons of caustic soda in 1974-75. Of this about 50,000 tons would be produced in East Pakistan.

Sulphuric Acid

122. Sulhuric acid is a basic chemical which is manufactured from sulphur pyrites, gypsum etc. etc. It is used for the manufacture of Alum, Paper, Sugar, Fertilizers, Hydro-chloric and Nitric acids. It is also utilized in the manufacture of Naphthol and Reactive dyestuffs. *Per capita* consumption of sulphuric acid in Pakistan is estimated about 0.24 kg. Demand for su.phuric acid will increase with the development of chemical industries in the country. A substantial quantity of sulphuric acid will be required for the manufacture of Fertilizer, Viscose Rayon and Dyestuffs. Similarly with the expansion of sulphuric acid consuming industries such as fertilizers, chemical complexes including petrochemical complex, paper, sugar, etc. demand for sulphuric acid would go up at a faster rate. However, large consumers may put up their own plants and hence the future demand, other than captive use, is expected to grow at the rate of 10% to 15% per year.

123. At present sulphuric acid production capacity of about 53,000 tons per annum exists. This does not include captive capacity of sulphuric acid of phosphatic fertilizer plants. Of the said capacity more than 13,000 tons capacity exists in East Pakistan. Further capacity of 1,36,000 tons of sulphuric acid is nearing completion (part capacity is in production) which is entirely meant for phosphatic fertilizer production

124. Similarly large scale sulphuric acid production for use in complex fertilizrs has also been authorised in West Pakistan which will come into production during the 4th Plan.

125. Provision for sulphuric acid, which is a basic chemical and is a key input of a number of industries primarily from gypsum in preference to imported sulphur, has been made in the Fourth Plan. This will need substantial investment.

Dyes

126. There are significant imports of various Dyestuffs which are mostly used in Textile, Paper, Leather and Paint.

The present production capacity is restricted to selected Dyestuffs which are locally manufactured. There are three plants presently manufacturing dyestuffs which produce mostly Direct and Sulphur Dyes. The capacities of installed and sanctioned plants are the following :—

(*i*) Direct Dyes Congo Red and other Direct Dyes . .	700 tons/year
(*ii*) Sulphur Black	300 tons/year
(*iii*) Acid Dyes	50 tons/year
(*iv*) Assorted Dyes (Solar Flavin, Pyrazol Violent and others)	120 tons/year

128. According to various importers of Dyestuff the total demand for 1970 may be assessed as follows :—

Dyes	Quantity (tons)	Dyes	Quantity (tons)
Reactive	500	Vat.	400
Napthol	500	Disperse	40
Sulphur	1,000	Direct.	1,200
Basic	400	Acid	200
Pigment	300		
Total ..	2,700		1,840
GRAND TOTAL ..	4,540 tons		

129. These are in line with the previous estimates made by the Consultants in their report on dyestuffs in the RCD countries.

130. Assuming that more sophisticated Dyestuffs such as Vat, Reactive will continue to be imported due to non-availability of know-how and insufficient demand for local production, the Consultants have projected the future demand for the most common dyestuffs. These are congo Red, Sulphur Black and other Direct Dyestuffs which are already being manufactured in the country. Demand projection has also been made for Napthol Dyes which may be manufactured in the RCD area in the 4th Plan period. The future estimates are the following :

	1969-70	1974-75	1979-80
(*i*) Sulphur Black	1,000	1,600	2,500
(*ii*) Congo Red..	500	600	1,300
(*iii*) Other Direct Dyes	700	900	1,200
(*iv*) Napthol Dyes	500	800	1,300

Insecticides and Pesticides

131. There are three main types of Insecticides/Pesticides, chlorinated, phosphate and carbamate. Out of this only Chlorinated insecticides are manufactured in the country at present. Timely availability of dis-infectants, insecticides and pesticides is essential for health and agricultural development. Creation of additional capacity will be undertaken during the Plan period in the light of the survey results and in conjunction with basic chemicals industries, coal, cargonisation, oil refining and petrochemical industries where feasible.

132. The present installed capacity of DDT and BHC is 4,000 tons/year (100%), and 3,000 tons (12%) respectively out of which 2,500 tons DDT (100%) and 2,400 tons BHC (12%) capacity is located in West Pakistan and 1,500 tons DDT (100%) and 600 tons BHC (12%) in East Pakistan. The production is far less than installed capacity because of stocks available with the Government and imports under AID and from WHO and other UN Agencies. Production was reported to be around 1,300 tons of DDT and 500 tons BHC for 1967-68. Two other projects have been sanctioned, in East Pakistan, with the annual capacities at 3,000 tons of Malathion and 2,400 tons of Dimecron and allied pesticides. Both these sanctioned plants will be in operation during the 4th Plan.

133. In addition to above the following Pesticides production projects are under the consideration of the Central Government :

Endrin..	1,500 tons/year
Heptachlor	1,000 tons/year
Mythyl Parathion	2,300 tons/year
Metachlorophos and M.S.P.	2,900 tons/year
Petkolin	6,000 tons/year
Toxaphene	5 million lbs/year

134. The following formulation units are in operation in the country :

Liquid Preparations	2,250,000 gallons/year
Dust Preparations	8,000* tons/year

(*Includes 4,000 tons of Sevin 50% dust).

135. In addition the following formulation units are under the consideration of the Government :

(*i*) Phosphates (Basudin, Diazenon etc.)	800 tons/year
(*ii*) Metachlor X M. S. P.	3400 tons/year

136. The gap between the domestic production and requirements is met through imports at a large foreign exchange cost every year. Pakistan has a wide range of standard insecticides which are always dictated by the mode of imports each year. It may be mentioned that Pakistan imports insecticides under AID, Barter deal and Loan. This means that the type of pesticides imported each year are different. In view of this situation a number of assumptions have been made by the Consultants while projecting the future demand till 1980. These projections do not represent a realistic situation as the entire usage of pesticides can change any year on account of a variety of factors. The Consultants have estimated the future requirements through 1980 as under :—

Maximum projected Requirements of Pesticides 1980

Insecticides/Pesticide	(Tons)
1. DDT	976
2. BHC	1,535
3. Malathion	4,920
4. Dipterex	447
5. Methyl Parathion	1,318
6. Endrin	2,259
7. Metasystox	2,377
8. Dimecron/Carbicron	2,765
9. Sevin	4,606
10. Dizainion	1,650
11. Toxaphene	3,430
12. Aldrin	826
13. Nogos/DDVP	859
Total ..	28,068

137. The requirements of pesticides during the 4th Plan period would be as under :—

Requirements of Pesticides during 1970-71 *to* 1974-75

(In tons of formulated material)

	1970-71	1971-72	1972-73	1973-74	1974-75
Chlorinated					
Centre	338	442	543	628	734
East Pakistan	1,831	2,200	2,500	2,850	3,000
West Pakistan*	2,500	2,750	3,025	3,475	4,173
Total ..	4,669	5,392	6,068	6,953	7,907
Phosphate					
Centre	2,014	2,297	2,593	2,813	2,974
East Pakistan	5,635	6,300	7,500	9,000	9,500
West Pakistan*	1,960	2,156	2,731	2,727	3,272
Total ..	9,609	1,0753	12,824	14,540	15,746
Carbamate					
Centre	752	855	1,014	1,136	1,213
East Pakistan	700	1,350	1,950	2,050	2,200
West Pakistan	2,500	2,750	3,025	3,478	4,173
Total ..	3,952	4,955	5,989	6,664	7,586
Others					
Centre	349	403	454	501	539
East Pakistan	2,880	3,480	3,530	3,680	4,200
Total ..	4,229	3,883	3,984	4,181	4,739

*The requirement of West Pakistan Government are expressed in terms of technical material. The actual formulated quantities will be much more.

138. In the 4th Plan provision has been made to create feasible capacity for production formulation of insecticides/pesticides which should result in savings of foreign exhange and higher yields of agricultural produce.

Fertilizer Production

139. Fertilizer is a key input for agricultural production. The country is gifted with abundant resources of natural gas for the production of nitrogenous fertilizers. The production of phosphatic fertilizers has in the past presented the probelm of both ingredients, *viz.*, rock phosphate and sulphur, having to be imported. It is now established that phosphatic fertilizer can be produced with sulphuric acid, which can be obtained from gypsum.

140. The demand for various kinds of fertilizers through 1974-75 is indicated in the table below which is the agreed estimate of the Central and Provincial Governments and their agencies concerned.

TABLE

Fertilizer requirements during Fourth Plan period

(000 Tons)

Fiscal year	Fast Pakistan			West Pakistan		
	N	P_2O_5	K_2O	N	P_2O_5	K_2O
1969-70	95	30	10	280	57	
1970-71	115	45	15	320	85	5
1971-72	145	65	25	370	120	10
1972-73	180	90	35	430	150	20
1973-74	215	120	45	480	185	35
1974-75	250	165	60	536	214	50

Source : Agriculture and Food Section, Planning Division.

141. The distribution programme for the year 1969-70 envisages a supply of 582,000 nutrient tons to the farmers. The difference between production & the requirment will be met partly by stocks in the pipeline and partly by imports. The requirements of the nitrogenous and phosphatic fertilizer in terms of nutrients are estimated at 1,350,000 tons.

142. Production of various kinds of fertilizers during 1969-70 is estimated about 195 thousand nutrient tons in the country. At present, a Urea Fertilizer Factory with a rated capacity of 340 thousand tons is ready for trial production in East Pakistan. Similarly the Ammonium Sulphate Plant, with a rated capacity of 12 thousand tons, has also gone into production recently. A TSP Plant, with a rated capacity of 32 thousand tons, went into production during the year 1969-70.

143. In West Pakistan, permission was given for the establishment of 2 Urea Fertilizer factories, with a rated capacity of 340 thousand tons per annum each. Another Plant which will produce 120 thousand tons of Mono Ammonium Phosphate, has also bee sanctioned. A Complex Fertilizer factory, with a production capacity of all 311 thousand tons of Nitro-phosphate nd 322 thousand tons of Ammonium Nitrate, has been authorised by the Government and is expected to be in production during Fourth Plan period.

144. In East Pakistan, Urea Factory, with a capacity of 340 thousand tons of Urea, has been sanctioned in the private sector. Another factory, which will be a part of the Industrial Chemical Complex at Ashuganj, has recently been recommended for approval, which will produce 320 thousand tons of Urea. A triple Superphosphate plant based on imported Phosphoric acid has also been sanctioned in private sector in East Pakistan which is likely to go into production during 1971-72.

145. Further capacity for production of Fertilizer, in order to meet the gap between the requirements and the domestic production will be established during the Fourth Plan period.

146. Fertilizer production in terms of nutrients during the Fourth Plan period estimated as under :—

(000 Tons)

Fiscal Year	East Pakistan		West Pakistan	
	N	P_2O_5	N	P_2O_5
1969-70	49	6	147	9
1970-71	91	10	147	9
1971-72	162	41	196	26
1972-73	195	67	269	56
1973-74	269	103	381	87
1974-75	408	114	522	119

147. Investment of about Rs. 2255 million would be necessary in this industry. Of this about Rs. 400 million would be in the Government financed projects

Products of Petroleum, Coal and Gas

148. *Petroleum.*—The consumption of petroleum products, lubricants, greases, asphalt and bitumen is estimated at a total of 4.72 million tons ; 3.03 million tons in West Pakistan and 1.69 million tons in East Pakistan in 1970. This depicts an overall consumption increase in the Third Plan of 33 per cent ; 17 per cent in West Pakistan and 73 per cent in East Pakistan, over the Second Plan and thereby a more rapid industrial growth in East Pakistan in the Third Plan period. The first such refinery with a capacity of 1.5 million tons went into production at Karachi in November, 1962. The capacity had been expanded to 2.4 million tons. Another refinery with a capacity of 0.5 million tons has also gone into production at Karachi.

149. At present there is an installed capacity of about 4.8 million tons of crude petroleum refining largely fed by imports. Expansion has recently been allowed to one of the refineries which will raise its capacity from 0.5 million tons to about 2 millions tons per annum.

150. In East Pakistan a refinery with a capacity of 1.5 million tons went into operation in 1968 but is facing teething troubles.

151. The construction of local refineries provides a focal point for the development of petrochemical industry.

152. In the 4th Plan a provision has been made for two refineries one in each Wing a production capacity of 1.5 million tons in East Pakistan and 2 million tons in west Pakistan. To achieve this capacity investment of about Rs. 475 million will be needed. Further investment will be required for storages facilities and filling stations. In addition investment is also envisged in balancing, modernization of the existing refineries.

153. *Coal Carbonisation.*—In the Third Plan production of Coal was expected to increase from 15 lac tons to 30 lac tons by 1969-70. The target could not be achieved due to various reasons and primarily because of the competiting fuel *i.e.*, Natural Gas. Only 13 lac tons of coal are expected to be produced in 1969-70. The Natural Gas was made available to areas where coal could have been used. In the Fourth Plan a production target of 35 lac tons of coal has been fixed. Coal fines can be better utilised in some processed form. Large quantity of coal fines results from mining of coal as a run of the mines, which will be further increased when the present level of coal production is raised from 15 lac tons in 1969-70 to 35 lac tons in 1974-75. In the Government financed sector in West Pakistan a project has already been sanctioned for the establishment of a coal carbonisation plant in Baluchistan. The Project will use run of the coal mines as a raw material for production of coal briquets and other by-products.

154. During the Fourth Plan period, a few low temperature coal Carbonisation plants in addition to the plant already sanctioned, may be undertaken which would help to promote the utilisation of coal and also yield a number of products including derivatives for the production of dyes, industrial chemicals and insecticides etc.

155. In order to meet requirements of coke, a cokery large enough to cater to the needs of industries such as steel, sugar, foundaries, etc etc. will need to be established based on imported coal for admixture of indigenous and imported coal.

156. *Gas.*—Besides the Natural Gas which is available in abundance in both the Wings of the country, associated Gas also occurs alongwith the Petroleum in West Pakistan. Since Natural Gas and the associated Gas provide a neat and clean fuel, units have already been established for bottling of these gases and marketing them as a fuel. The demand for this fuel is rapidly increasing in the country.

157. The prospects of liquification of Gas for export from East Pakistan will be explored during the Plan period. Success in this direction will add a new dimension to the development of this industry in the country.

158. Provision in the Fourth Plan for this purpose has been made.

159. The abundant reserves of natural gas, presently to be of the order of 9 million cubic feet in East Pakistan and 16 million cubic feet in West Pakistan, as also theavailability of naptha as a co-product of oil refining, provide the opportunity for the development of petro-chemical industries in both wings of the country. The development of this groups of industries is particularly important in Pakistan becuase the country does not produce any metals and the limited forest resources also can be utilized to better advantage in other fields.

160. The Petro-chemical industries can provide an economical base for the substitution of metals, wood and timber in construction activity. The increasing requirements of packing materials, particularly for fertilizers, lend further urgency to the development of these industries.

161. In the private sector in West Pakistan sanction has been accorded to expand the capacity of the existing Polyethylene plant from 5,000 tons to 15,000 tons. The expansion is based on the utilisation of Ethylene from the Petrochemical complex at Karangi. Another Petrochemical Complex based on Naptha from the Refinery at Karachi has been sanctioned by the Government in November, 1969. The Complex involves investment of Rs. 302 million of which about Rs.

171 million would be in foreign exchange. The authorised Complex is designed to produce the following products :—

(*a*) Naptha Cracker	47,000 tons of ethylene but initially producing 24,500 tons which may be expanded to 60,000 tons.
(*b*) Polyethylene Plant	10,000 tons.
(*c*) PVC Plant	15,000 tons.
(*ii*) Vinylchloride Monomer to feed PVC plant	16,500 tons.
(*iii*) Chlorine plant to feed VCM Plant	11,000 tons.
(*d*) Polypropylene plant	5,000 tons.
(*e*) Dodecyl Benzene Plant	5,000 tons.

162. In the Government financed sector (EPIDC) an Export oriented Petrochemical Complex based on natural gas has been approved by the Government. The proposed Complex envisages investment of about Rs. 1,042 million which includes about Rs. 562 million in foreign exchange and would produce the following products :—

Products	(*Quantity in tons*)
Acetylene	36,000
Bleaching Powder	1,000
Cuastic Soda	42,000
PVC Resin	50,000
PACN (Polyacrylonitrile)	12,000
PACN Tows	4,000
PMMA (Polymethy-Imethacrylate)	4,000
Methenol	37,000
Ammonium Sulphate	28,000
Urea	3,20,000

163. The complex is expected to be in production towards the end of the 4th Five Year Plan or early in the Fifth Plan.

164. Pre-investment studies for the longer term integrated development of petrochemical industries are now under preparation under project assisted by the United Nations Special Fund, and are expected to be available during 1970-71. In the meantime, feasibility reports and plans for setting up of the first petrochemical complexes, one in each wing, have been prepared. The above complex will produce polyethylene, PVC, synthetic fibre and detergents in quantities that can be justified by the demand and also provide some of the intermediates as raw materials for the units that have already been set up.

165. It is estimated that investment required in the establishment of these two petrochemical complexes will be of the order of Rs. 1,400 to Rs. 1,500 million.

NON-METALLIC MINERAL PRODUCTS

Cement

166. West Pakistan is rich in the non-metallic mineral wealth which serves as a raw material for the production of items such as cement, bricks, tiles, glass, pottery fire bricks, etc. In East Pakistan such mineral resoruces are scarce but clay, sand and recently discovered large deposits of limestone will permit expansion of existing units and creation of new capacities during Fourth Plan period. With the abundant raw material base for this industry in West Pakistan there is no reason why the country should not become self-sufficient in cement, provided adequate inter-wing shipping arrangements are made and the policy that the consumer in East Pakistan should not have to pay a higher price for cement from West Pakistan is pursued. East Pakistan's own industry will, of course receive high priority. The industry also offers export prospects if the two main deterrents, *viz.* the cost of bagging and the inland freight can be reduced.

167. The Third Plan set a target of 6 million tons for the production of cement. The actual production during 1969-70 is, however, estimated at 3.3 million tons The target of 6 million tons was set on the basis that there would be no imports either for West Pakistan or for East Pakistan. In fact, some imports have continued to be made under barter and the shipping difficulties between West Pakistan and East Pakistan have acted as a deterrent to the fulfilment of the target.

168. The import of machinery for the development of this industry should appreciably reduce with the coming into production of the Heavy Mechanical Complex at Taxila.

169. In East Pakistan, a cement factory with a rated capacity of about 1,50,000 tons is in operation but the production has not been higher than 90,000 tons. Another factory at Chittagong is based on imported clinkers is expected to go into production in early 1971, will produce 3,00,000 tons cement. A projec based on Jaipurhat limestone, has been sanctioned and is being implemented by the Government financed sector. This is expected to go into production during the 4th Plan. It will have a rated capacity of 6,60,000 tons of cement. Further cement production capacity based on supply of clinkers from West Pakistan will need to be created in East Pakistan in order to meet its demand of 2 million tons of cement in 1974-75.

170. In West Pakistan installed capacity of cement would be about 3.5 million tons in 1971 as expansion and modernisation of cement factory at Rohri and Wah would be campleted and anew cement factory at Sibi may also be in production during next year. Further cement production capacity in West Pakistan will also have to be created in order to meet the domestic requirement of this Wing, supplies from West Pakistan to East Pakistan and also to achieve the export target of cement for 1974-75. Prospects of establishing a mammoth cement plant for export purposes are also bright. This project will have a rated capacity of about 1.8 million tons of cement per annum.

171. In the Fourth Plan the production target of 7.5 million tons which includes 2 million tons in East Pakistan and the balance in West Pakistan for 1974-75 has been fixed. Adequate provision particularly in the private sector, is being made for this purpose in the Fourth Plan.

Refractories :

172. The raw materials for production of fire bricks and refractories are magnesite, chrome, alumina and dolomite which are found in Pakistan.

173. Modern high temperature metallurgical processes require refractories materials for furance lining that should withstand high temperature. The refractories, which are of different varieties, are consumed in industries such as iron and steel, cement, foundries, glass, chemical industires, boilers, etc. The country's requirements of refractories are at present being met from domestic production and imports. Imports of refractories during 1963-64 and 1964-65 had been of the order of Rs. 6.59 million and Rs. 6.82 million respectively. These imports have gone upto about Rs. 8 00 million during 1966-67. At present there are only 8 refractories plants with an aggregate installed capacity of 19,000 and 2,000 tons per annum of ordinary and specialized fire bricks respectively. The production of ordinary fire bricks is estimated at about 12,000 tons.

174. According to the study carried out by the Consultants for the Planning Division, the requirements of refractories through 1969-70 are about 53,400 tons. The break down of these estimates is as under :

(*a*) Fire bricks	13,100 tons
(*b*) High Alumina bricks	9,300 tons.
(*c*) Fire clay bricks	28,500 tons.
(*d*) Others	2,500 tons.
Total ..	53,400

175. The only existing refractory factory in the Government financied sector is being balanced and modernised. On completion it will produce 12 thousand tons of fire bricks. A new plant to produce about 20 thousand ton per annum of specialsed refractories is proposed to be established with the assistance from the friendly countries, during the Fourth Plan period, Further capacity in private sector to meet the requirements of the country will also be developed through extension of existing plants or by establishing new factories.

180. Provision in the Fourth Plan for this purpose has been made.

PHARMACEUTICALS, ANTIBIOTICS AND FINE CHEMICALS

176. By the end of Third Plan period considerable indigenous capacity in the country for production of drugs and medicines such as glanicals, syrups, tinctures, tablets and ampoules devoted mainly to processing and repacking imported ingredients and drugs, imports of patented and proprietory medicines has developed. Production capacity for the basic manufacture of penicillin, streptomycine, vaccines and sera, chloramphenicols and INH has been developed and is partly meeting the country's requirements. Permissions have been given for the establishment of a number of units both in East and West Pakistan, some of which will be set up in collaboration with foreign participants, for the basic manufacture of drugs from indigenous raw materials and imported intermediates for items such as anti T.B. drugs, anti malarial drugs, anti-dysentery drugs etc. during the Third Plan period, these units are in varying stages of completion. A Streptomycine factory is being set up in East Pakistan in the Government financed sector and is expected to go into production during Fourth Plan period. Basic production of sulpha, anti-T.B. and anti-malarial drugs has been undertaken in the factory (jointly set up by EPIDC with foreign manufactures of repute) at Dacca and would be in full production during the 4th Plan.

177. During the Fourth Plan period not only balancing, modernization and expansion of existing factories would be allowed but basic manufacture of

drugs/antibiotics etc. from indigenous raw materials and imported intermediates by the private sector preferably in collaboration with foreign manufacturers of repute will be encouraged.

BASIC METALS

Steel

178. One of the declared objectives of the Fourth Plan is that the import component of future development in terms of investment goods will be reduced from the present 75 per cent to about 50 per cent by 1974-75. A beginning has been made during the Third Plan with the setting up of some important machine manufacturing industries like machine tools, heavy mechanical complex which will be followed by heavy electrical complexes in both provinces, and increased production of heavy steel structures and the building of ships in the country. The imports of steel were of the order of 1.2 million tons in 1965-66. These have somewhat declined (with adverse affects on development activity) because of the difficulties in the import of steel, both by way of prices and the mode of import. The requirements by 1975 are estimated at 3 million tons. At present time, Pakistan has a large number of rerolling mills, operating on imported billets. Small capacity for special and alloy-steel has been established in Karachi. The only larger production capacity of steel is in Chittagong, currently under expansion to 250,000 tons. Efforts will be made to improve the working of this mill. It has been established that in West Pakistan it is technically and economically feasible to set up a steel mill based on indigenous ore near Kalabagh. Financing for this project, however, continues to present a problem.

179. The Government has at the same time decided to make a start in West Pakistan with a coastal steel plant of a capacity of 1,050,000 tons based on imported ore and the Government of USSR has agreed to collaborate with by providing finance and technical assistance in setting up this mill. The plant would produce pig-iron (100,000 tons), billets (350,000 tons) medium sections (200,000 tons) and flats (400,000 tons). Of this, an initial capacity of 0.75 million tons could be working at the end of the Fourth Plan. A modest production target of 1.0 million tons is set for steel production in the country but to achieve even this target speedy action will be required in all directions.

180. Among the principal inputs and basic materials for the manufacture of most capital goods industries products are iron and steel castings. To develop the engineering industry, quality castings must be available at a reasonable cost.

181. In Pakistan, there are over 400 iron steel casting plants, practically every machine shop with over 150 workers has a foundry. Most of the foundries are rather primitive. There are several large installations with electric furnaces for steel castings in Karachi, Dacca and Lahore.

182. It is necessary to promote the establishment of some suitable located large scale foundries, with both mechanical moulding and handling facilties, an efficient mechanical sand preparation plant, pattern shops, core shops, and above all, laboratories for raw material control and product testing. It would be desirable of such enterprises were established with foreign technical assistance, so as it is in the case of Heavy Foundry a Forge, Texila, already under construction.

183. To feed at least some of these foundries by raw-material principally pig-iron which in the absence of production within the country is all imported. It is proposed to set up a Pig-Iron Mill of a 150,000 tons capacity per annum based on domestic Chilghazi medium rich magnetite iron ore, in best suitable site affording the necessary water, power, gas and other necessities.

Special Steel

184. The project to set up capacity for the production of special steel has been sanctioned in the private sector and is due to commence production in 1971. This project will provide special and alloy steel to the engineering industries in general and to industries engaged on the production of machinery and machine tools in particular. Additional capacity for the production of special and alloy steel will be created during the Plan period as required.

Aluminium, Copper and Brass

185. Like steel the country depends entirely on imports of aluminium and copper. Deposits of bauxites as also of copper ore have been established. The possibility of economic production of aluminium and copper from these deposits will be further pursued during the Fourth Plan period. Consideration will at the same time be given to the setting up of an aluminium plant based on imported alumina. The production of aluminium is determined primarily by the cost at which electricity can be made available. Investigations will be made into the possibility of using indigenous coal for the production of power at cheap rates and in bulk for use in such an aluminium smelting plant. Possibilities for setting up a Brass Mill in private sector will be pursued in the plan period.

Metal Products Industries

185. Domestic production of metal goods is mostly an import-substituting industry, heavily dependent on imported inputs (steel, non-ferrous metals, components and spare parts). Although the total installed capacity employing more than 40,000 workers, was nearly Rs. 1,500 million at the end of the 3rd Five Year Plan, the actual capacity utilisation was under 40%, mostly due to raw-material shortages. In wires and cables the installed capacity aggregates presently Rs. 143 million (Rs. 61 million in East Pakistan and Rs. 124 million in West Pakistan) but the capacity utilisation was under 30%. For the fabrication of structural products for bridges, factories and other buildings which was encouraged in the Third Plan period, in spite of difficult steel-imports the capacity utilisation exceeded 50% and should develop further. Cutlery and household equipment manufacturing industries provide employment to nearly 15,000 workers, and are exporting about Rs. 5 million of their products yearly, which amount should be more than doubled in the future. Agriculture tools and implements which are produced mostly on small scale basis all over the country need not only better raw material supply but also improvement of quality. The Pakistan Institute of Technical Assistance in collaboration with the Provincial Small Industries Corporation will strive during the Plan period to achieve the improvement in quality.

Engineering Industries

187. This group of industries is the largest component of investment goods products and it is one of the important objectives of the Fourth Plan that the current dependence of the country on imported capital goods will be reduced from about 75% at present to roughly 50% by the end of this Plan period.

188. Pakistan is fortunate in having already established a significant nucleus of engineering industry with substantial employment potential and good demand prospects both in the home market and abroad. In 1966-67 gross value of production of engineering industries amounted to Rs. 1,368 million. Employment in the engineering sector was 90,000 and accounted for 15.2% of the aggregate industrial employment of 590,000. Engineering industries were more labour intensive per unit of value of production and of value added than other industries. Between 1959-60 and 1967-68, output of the engineering industries rose at almost 19% per year compared to the over all growth rate of industry of 12.5%. Domestic industry supplied about one-fourth of the aggregate requirements for capital goods of the economy.

189. The domestic market for engineering goods is about Rs. 2,300 million and will increase faster than the aggregate income. World demand has been growing rapidly throughout the postwar period and there is no reason why it should decelerate. Consequently, this sector could not only serve as a basis for successful import substitution in future, but could also generate large exports.

190. Engineering industry is heavily dependent on imported inputs (steel, non-ferrous metals, components and spare parts). As the needs and requirements of raw material for this industry will rapidly increase, efforts are being made to obtain a progressively higher proportion of foreign assistance as commodity aid. The World Bank's Special Mission on Industry has estimated that the additional import requirements of metals for this group of industries will be of the order $ 125 million. The establishment of an efficient domestic steel industry will represent a major step forward in assuring the growth of the engineering industries.

191. The manufacturing industry requires product standardization and improvement of quality to meet competition from imports and to tap export market. The growth of the engineering industry is closely related to its competitiveness not only in quality and price, but also in its ability to provide credit on terms comprarable to foreign competitors. Availability of adequate credit facilities for sales financing is necessary for local market as also for export.

192. The basis for enlarged deliveries of engineering goods for local and foreign market is given by the new capacities going into production in the near future.

Machine Tools

193. The machine tool industry is important not only because it is a supplier of tools for captive workshop for existing factorie but acts as a catalyst for in-industrial development.

194. In West Pakistan the private sector took the lead with the production of a few of the simpler machine tools. It was established however that the private sector alone could not make all the investment that was necessary to produce the more sophisticated machine tools which presently may not be the bread and butter lines, but which would be essential on putting the country on the road to meeting more and more of the investment goods requirements of the country. In recognition of this need Government decided to set up a machine tool factory in West Pakistan, to supplement and not necessarily to compete with the private sector in such tools as were being produced to the required quality and in adequate qualities.

195. The Pakistan Machine Tool Factory at Landhi, Karachi, has gone into initial production of machine-tools of various kinds. When in full production the factory is expected to provide an annual output of about Rs. 115 million. This project has been converted into an RCD project and is expected to supply also gear boxes and axles to the three RCD Countries namely Pakistan, Iran and Turkey for Jeeps and tractors.

196. In East Pakistan a Machine Tool Factory at Joydevpur, Dacca, is under implementation with an annual production capacity of 12,155 tons. It will produce textile spinning machinery, textile machine spares, lathes, milling machines, spares, transmission gears and rear axiles for trucks and other automobiles. The factory was expected to start assembly of varios machinery parts by 1970, complete local manufacturing of medium size machine tools is expectd to start by the end of 1972-73.

Stationery Diesel Engines

197. This industry is one of the oldest in Pakistan, especially in Lahore area, in which there are several large plants and more than 100 small manufacturing shops. Officially, only 33 plants are sanctioned for a production capacity of nearly 12,000 diesel engines per year. No expansion of the capacity is envisaged during the 4th Plan period. There is a distinct need however, for improving the quality of engines produced particularly in the smaller manufacturing units based on imported in-puts, efforts will be made to improve the quality through the improvement of technical skill and the production of a better grade of castings.

198. In East Pakistan a diesel plant with an annual production capacity for the assembly and progressive manufacture of 3,000 engines (600 single cylinders and 2,400 double cylinders) is under implementation by the public sector in collaboration with foreign manufactures. Assembly operations has just recently commenced and during the 4th Plan period the progressive manufacture of the engines will be taken in hand. The programme is by and large devoted to the production of engines for irrigation purposes.

Heavy Machinery

199. The Third Plan saw the beginning of efforts to create capacity for the production of some of the heavy machinery within the country. The 4th Plan will see the coming into production the Heavy Machanical complex at Taxila which is nearing completion with Chinese assistance. This project will produce cement and sugar mills, low pressure package type boilers, pressure vessels, road building machine etc. aggregating 14,500 ton per annum.

200. An essential requirement for the production outlined above is a heavy foundery and forge which will also be set up alongside this complex with Chinese assistance. The annual output of this project will be about 60,000 tons in terms of molten steel.

201. Feasibility studies are now in progress for the production of suitable items of heavy machinery in East Pakistan.

Agricultural Macninery and Equipment

202. The present annual requirements of tractors in West Pakistan is about 5,000 and is expected to gradually increase to about 9,500 by 1975. Permission for the assembly/progressive manufacture of 3,500 tractors on a single shift basis has so far been accorded to 5 different private parties. The import of tractors will be gradually reduced as the internal production increases.

203. The Fourth Plan will see in East Pakistan the beginning of the manufacture of power tillers in two plants sanctioned in the private sector.

204. During the Fourth Plan local manufacture of agricultural implements will be further encouraged so that the import of implements be progressively reduced in proportion to the local manufacturing capacity.

205. A Farm Mechanisation Committee for West Pakisan has recently made its recommendations and the programme for the manufacture of agricultural machinery will conform to such of the recommendations of the Committee as are accepted. A similar Committee has been set up for East Pakistan and the recommendations of that Committee will be implemented during the Plan period.

Electronic Equipment Radios and Television Receivers

206. As survey of Television Industry in 1968 revealed that approximately 42,000 Television sets were in use in the country. It was also estimated that this number would increase to 500,000 by 1975. Assuming uniform increase in demand and further increase with the coverage of 80% of the population the demand is estimated to rise to 60,000 sets per year. The present sanctioned capacity for assembly/progressive manufacture of T.V. sets to seven units is 35,000 sets on single shift basis, but the installed capacity is 76,500 sets on single shift basis. Locally produced component in T.V. sets manufactured in Pakistan continues about 30—50%. During Fourth Plan sanction for the manufacture of T.V. picture tubes and other component will be given. In this way the percentage of local content is likely to go considerably high during the Fourth Five Year Plan as was done with radio receivers in the Third Five Year Plan.

207. While the radio and television receivers assembly and progressive manufacturing capacity is located in the private sector, for the production of telephone, telephone exchange equipment, and some of the sophisticated electronic equipment capacity has been created in the public sector during the Third Plan. A good measure of technical skills has been achievd.

208. High importance is attached to the development of the electronic industry in Pakistan not only because of the facilities that it provides for communications between the two Wings of the country, but also as it is defence oriented and labour intensive. An Electronics Coordination Board sponsored by the Central Government will coordinate production for optimum utilisation of capacities in this industry, of standardised equipments, components and techniques, promoting research and development and laying with foreign technical and industria agencies with the prime objective of promoting the development of the electronic industry in Pakistan in conformity with the requirements of improvements in technology.

TRANSPORT EQUIPMENT

The Automotive Industry

209. The automotive industry in Pakistan is still in its initial phases and looks more like the assembly of imported parts and marketing of products than the production of transportation equipment. Its major problems are the duplication of plants, the absence of a comprehensive programme for development of the industry and irregular and changing conditions concerning competing imports, duties and and taxes and the foreign exchange regime.

210. The government has sanctioned 6 assembly plants for cars, jeeps and commercial vehicles and 3 assembly plants for motor scooters and motor cycles. The existing assembly capacity is : commercial vehicles, 4,500 units; trucks, 3,000; cars, 8,400; jeeps, 6,000 and motor scooters and motor cycles, 14,000.

211. Most plants have simple equipment, the most sophisticated equipment installed being some spot welders, jigs and fixtures. The investment per unit assembled varies widely, but it is generally small, in relation to the value of production, compared to other industries. The local component reached in the assembly operations is of the order of 30% on the average.

212. The setting up of the assembly plants, even though basic manufacture is still in the initial stages, has helped the setting up of a number of ancillary industries such as those for the manufacture of piston rings, leaf springs, brake drums, batteries, radiators, exhaust systems etc. The production of these spares and accessories will continue to receive encouragement during the Plan.

A. Passenger Cars

213. The market for cars is limited in Pakistan. In 1966, 104,488 cars were registered, and in 1967, 117,971 cars, representing an increase of 12.9%. As automobiles are still considered a luxury in Pakistan and represent a large investment, their life is rather long, leading to continued maintenance rather than substitution. The substitution rate under Pakistan conditions would suggest a replacement of approximately 6—8% per year, the remainder being new consumers. On this basis, a minimum normal need of 10,000 cars per year can be expected. There are only a limited number of models justified by market size. However, the plants in operation produce many models, on a limited scale, in small-batch production and thus at increasing costs. In addition there is a preference for imports of already assembled cars. For example, it is estimated that about 25% of the existing stock has come into the country in assembled form imported by the consumers (domestic citizens returning from abroad, foreigners serving in the country, etc).

214. The multiplicity makes and models of passenger cars however, militates against the eventual manufacture of passenger crs within the country. Standardisation of one or two cars is a must for the production of passenger cars within the country. A study is now in progress to determine the principles which would govern the standardisation of cars and the location of plants for progressive manufacture keeping in view regional considerations.

B. Commercial Vehicles, Trucks and Buses.

215. In 1965 there were 52,100 registered trucks and buses. For the Third Plan, the requirements were estimated at 30,500 both for replacement and addition to the existing vehicles, in other words, a renewal and increase of about 6,000 vehicles per year. With the increase of increase of urbanisation and industrialisation of the country it is estimated that during the Fourth Plan the additional requirement will be for 48,500 vehicles

216 The installed capacity too assemble buses and trucks is sufficient to cover the need for the Fouth Plan period by way of assembly.

217. By way of local component the percentage reached is of the order of 40% but the largest single component of the vehicles *viz.* the engine is not yet produced in the country Permission has recently been accorded for the production of a standardised Bedford engine and also to promoters of two other engine s *viz.* the Perkins and Deutz makes. During the Fourth Plan the production of atleast one of these engines is expected to materialise.

C. Motorcycles and Scooters

218. The increase of urbanization and industrialisation of the country, so as the growing standard of living and enlarged employment possiblities, will be followed by a greater demand for motorcycles and scooters.

219 Although it is possible to get larger output from the existing assemmbly capacity, greater emphasis will have to be laid on the nmanufacture of suitalbe type of engines and other main parts locali, *i.e.* to avoid the unnecessary proliferation of many brands in the country.

Bicycles

220. The existing and sanctioned capaity of bicycles in the country is 3,24,000 (55,000 in East Pakistan and 2,70,000 in West Pakistan) which is quite adequate to meet the domestic requirements of bicyles. The industry, however, also has exports and potential The existing units will be modernised to promote

exports complementarty will be promoted between small and large size units particularly in the manufacture of components. Sanction of additional capacity will be given only for East Pakistan.

221. The products of the existing units were of the order of Rs. 42.709 million (Rs. 2.709 million in East Pakistan and Rs. 40.000 million in West Pakistan).

Ship Building and Ship repairs

This industry is of particular significance to the country because of the sea providing the main link between the two wings of the country and also because of the importance inland water transport to life and economic activities in the eastern wing, inlad water transport being the principle means of inland communication within East Pakistan.

223. The only facility of note for servicing inland water transport in East Pakistan which existed at the time of independence was the small Narayanganj Dockyard. There were no facilities for the servicing, much less building of oceangoing vessels. Action was initiated in the first Plan period itself to set up a ship repair and ship building yeard at Karachi and one at Khulna.

224. The industry has had to face many difficulties because of Govt's failure to re-cognise in time that in a country like Pakistan ship building has of necessity to be subsidised as is done in most countries of the world. In addition to the two major undertakings at Karachi and Khulna and Dockyard at Narayanganj there are a number of smaller dockyards particularly in East Pakistan owned and managed by the private sector. The total production capacity of the existing facilities is 54,000 tons DWT and large vessels in addition to an approximately 20 Fishing trailers and over 400 smaller crafts. Employment in this industry is over 8,000.

225. In West Pakistan the first phase of the Karachi Shipyard was completed in 1964. The first ocean going vessel of 13,000 tons DWT was completed in 1966-67. The shipyard is now coming into its own by way of ship building proper, supported by the National Shipping Corporation. It has of course always rendered extremely useful service of providing ship repair facilities apart from a host of heavy engineering products. With the commencement of the Fourth Plan the ownership and management of the ship yard will be transferred to a new set up under the ports and Shipping Division of Government so as to establish closer liaison between the ship builders and the ship users. Arrangements will also be made simultaneously to complete the second phase of the shipyard during the Fourth Plan period.

226. In East Pakistan apart from proceeding with the balancing and modernizing of the Government owned dockyards at Narayanganj and the Khulna ship yard, a new ship yard and dry dock, ajlmost comparable in size to be one at Karachi, will be set up at Chittagong. Assistance will also continue to be provided to private dock yards in the modernization of their facilities.

227. Inland water transport being the life line for economic activity the need for the meachanization of inland going vessels can-not be over emphasised. For this purpose steps will be taken during the Plan period, in close association with the inland Water Transport Authority, to standardise the vessels and particularly engines and parts thereof.

228. In the present day world a growing economy needs fast moving means of transport. Air travel has come to occupy a place of importance of its own not

not only for travel between the two regions of the country but also for comparatively short distance travelling within each region. In addition there are increasing requirements of medium and short range aircraft for Plant Protection and Pesticides control purposes. Possibilities of setting up progressive assembly -cum-manufacturing facilities for suitable types of medium range aircraft with foreign collaboration will be persued during the Plan period.

ROPOSED PYSICAL TARGETS

229. The attached tables show the targets of production of major manufactured goods expected to be achieved at the end of the Plan period. The extent to, and the speed at which, these targets are achieved will depend on the speed and effectiveness of activising the private sector, improvement in the working of public sector agencies concerned with industrial development, the adequacy and timly availability of funds with financing institutions, and the restoration of complete harmony between labour and management, apart from the timely availability of key inputs for import based industries and the adequacy of aopportunity and incentives for the export oriented industries.

TABLE

Benchmarks and physical Targets for the Third and Fourth Five Year Plans

All Pakistan

Industries/Item	Unit	Bench-mark 1964-65	Targets 1969-70	Bench-marks 1969-70	Targets 1974-75	per cent increase over 1969-70
1	2	3	4	5	6	7
1. Food Manufacturing:						
(i) white sugar	000 tons.	312	640	730	1,000	37
(ii) vergetable Ghee	000 tons	90	140	160	300	88
(iii) Cigarettes	Th. Mill. Nos	18.5	30	40	80	100
(iv) Tea.	Mill. lbs.	64	74	68	90	32
2. Manufacture of Textile:						
(i) Cotton Yarn	Mill. lbs.	520	720	700	1,100	59
(ii) Jute Goods (Hessian/sacking)	000 tons	331	800	545	790	45
(iii) Broadloom jute products ..	000 tons	10	120	55	210	282
3. Paper and Borad:						
(i) writing & printing paper ..	000 tons	47	100	61	200	228
(ii) boards all kin 's. .. .	000 tons	27	100	64	150	134
(iii) Newsprints and mechanical papers	000 tons	42	100	50	75	50
(iv) Pulp.	000 .ons	—	—	—	30	—
4. Chemical Industries:						
(i) Fertilizer (in terms of nutrient)	000 tons	118	765	195	1425	631
(ii) soda ash.	000 tons	28	172	70	200	186
(iii) caustic soda	000 tons	15	90	35*	180*	243
(iv) sulphuric acid ..	000 tons	16	600	103	1,000*	900
(v) Petrochemical	000 tons	—	330	10	170	1,600
5. Non-Metallic Minerals:						
Cement	000 tons	4,200	,000	3,286	7,300	122
6. Basic Metal Steel	Do	—	1,200	90	750	733
7. Machinery etc						
(i) Machinery other than the electric machinery	Mill. Rs.	N.A.	N.A.	297	874	194
(ii) Electrical Machinery, apparatus, appliances	Mill. Rs.	N.A.	N.A.	402	678	69
(iii) Transport equipment ..	Mill. Rs.	N.A.	N.A.	466	701	50

*Includes captive capacity.

TABLE

Bencharks and Pysical Targets for the Third and Fourth Five-Years Plan

Manufacturing Sector-East Pajistan

Industries/Item.	Unit	Third plan Targets 1969-70	Fourth Plan Bench-marks 1969-70	Fourth Plan Targets 1974-75	per cent increase over 1969-70
1. Food Manufacturing:					
(i) White sugar	000 tons	230	130	250	92
(ii) Vegetable Ghee	000 tons	25	9	25	177
(iii) Cigarettes	Th.Mill.Nos.	11.5	18	40	122
(iv) Tea	Mill lbs.	74	68	90	32
2. Manufacturing of Textile:					
(i) Cotton Yarn.	Mill. lbs.	234	130	400	208 208
(ii) Jute Goods (hessian sacking).	000 tons.	768	530	750	41
(iii) Broad loom Jute Products.	000 tons.	96	55	210	282
3. Paper and Board:					
(i) Writing and Printing Paper.	000 tons.	65	50	100	100
(ii) Board all kinds.	000 tons.	30	20	50	150
(iii) Newsprints & Mechanical Papers.	000 tons.	65	50	65	30
(iv) Pulp.	000 tons.	—	—	30	
4. Chemical Industries:					
(i) Fertilizer (in terms of nutieent)	000 tons.	727	55	625	1,036
(ii) Soda Ash.	000 tons.	36	—	40	
(iii) Caustic Soda.	000 tons.	35	7*	60*	757
(iv) Sulphuric Aicid	000 tons.	280	40*	370*	825
(v) Petrochemical	000 tons.	152	—	110	
5. Non-Metallic Minerals :					
Cement	000 tons.	200	86	1,000	1,063
6. Basic Metals :					
Steel	000 tons.	300	90	250	179
7. Machinery etc :					
(i) Machinery other than electric Machinery	Mill. Rs.	N.A.	38	179	371
(ii) Electrical Machinery apparatus, appliances	Mill. Rs.	N.A.	44	140	218
(iii) Transport equipment	Mill. Rs.	N.A.	107	160	50

* Includes captive capacity.

TABLE

Benchmarks and Physical Targets for the Third and Fourth Five-Year Plans

Manufacturing Sector-West Pakistan.

Industries/Item	Unit	Third Plan	Fourth Plan		Percent increase over 1969-70
		Targets 1979-70	Be ch-mark 1969-70	Targets 1974-75	
1. Food Manufacturing :					
(i) White sugar	'000' tons.	410	600	750	25
(ii) Vegetable Ghee	000 tons.	115	151	275	82
(iii) Cigarettes	Th.MillNos.	18.5	22	40	82
2. Manufacture of Textiles :					
(i) Cotton Ya n.	Mill. lbs.	486	570	700	23
(ii) Jute Goods (Hessian/sacking) ..	000 tons.	32	15	40	167
(iii) Broad Loom Jute Products. ..	000 tons.	24	—	—	
3. Paper and Board :					
(i) Writing and printing paper ..	000 tons.	35	11	100	80
(ii) Boards all kind	000 tons.	70	44	100	127
(iii) Newsprints and Mechanical Papers	'000' tons.	35	—	10	
4. Chemical Industries :					
(i) Fertilizer(in terms of nutrient) ..	000 tons.	338	140	800	471
(ii) Soda Ash	000 tons.	136	70	160	129
(iii) Caustic Soda	000 tons.	55	28*	120*	330
(iv) Sulphuric Acid	000 tons.	220	60*	630*	320
(v) Petrochemical	000 tons.	178	10	60	500
5. Non-Metallic Minerals :					
(i) Cement	000 tons.	4,000	3,200	6,300	97
6. Basic Metals :					
Steel	000 tons.	900	60	500	733
Steel Furnaces	000 tons.	—	60	250	317
7. Machinery etc					
(i) Machinery other than electric Machery	Mill Rs.	N.A.	279	693	168
(ii) Electrical Machinery, apparatus, appliances	Mill. Rs.	N.A.	359	537	50
(iii) Transport equipment	Mill. Rs.	N.A.	359	536	49

* Includes captive capacity.

CHAPTER 21

FUELS AND MINERALS

Past Performance

1. The Third Plan recognised the need for accelerating the exploration and development of mineral and fuel resources to meet the increasing need for utilities and to provide raw materials for industries notably steel, petro-chemicals, fertilizers, cement, ceramics and refractories.

2. That development in the Mineral and Fuel Sector has lagged behind is clearly indicated by the low contribution of this Sector to the Gross National Product. This contribution was only 0.1 per cent in 1949-50 and hasri sen slowly to about 0.3 per cent in 1967-68.

3. The Third Plan envisaged an investment of Rs. 1,524 million for the development of Fuels and Minerals sector out of which Rs. 592 million were in the public sector and Rs. 932 million in the private sector. The total development outlay in the mining field of the Government financed sector during the Third Plan period is expected to be about Rs. 510.29 million, as is indicated in the Table below :

(Million rupees)

Sl. No.	Sub-Sector Item	Estimated Actual expenditure					Total Estimate Expenditure for 1965—70	Third Plan Allocation	Percentage achievement col. 8 of col. 9
		1965-66	1966-67	1967-68	Revised Estimate of Expenditure 1968-69	Budget Provision for 1969-70 B.E.			
1	2	3	4	5	6	7	8	9	10
1.	Geological Survey Activities ..	5.20	6.65	11.20	10.00	9.50	42.55	70.50	60
2.	Development of Oil and Gas (Russian Aided)	34.79	54.23	56.20	48.45	65.00	258.67	250.00	103
3.	Oil and Gas Prospecting (Private Companies)	2.33	4.27	3.83	5.44	13.83	29.70	36.00	83
4.	Gas transmission and distribution ..	15.24	14.90	14.90	15.48	6.00	66.52	80.00	83
5.	Coal and Peat Development	14.34	13.57	21.35	11.51	11.48	77.26	96.12	75
6.	Training and Research	2.56	4.62	3.41	2.32	0.24	13.16	20.50	64
7.	Selected Minerals and other Projects ..	2.62	3.39	9.49	7.00	4.92	27.43	38.88	71
	Total ..	77.08	101.64	120.39	100.20	110.97	510.29	592.00	86

4. The search for oil was continued both by the private oil companies and by the Oil and Gas Development Corpor tion. On the physical side, the production increased slightly. The index of (base 1959-60=100) rose from 174.5 in 1964-65 to 201.5 in 1968-69. The contribution of this sector to the G.N.P. also increased from Rs. 131

million in 1964-65 to Rs. 151 million in 1968-69. The table below sets out the physical targets en- visioned for the Third Plan and the results expected to be achieved by 1969-70.

	Unit	Bench mark (1964-65)	Targets 1969-70	Estimated Achieve-ments
1. Natural Gas	000 Mill. cft.	63	200	130
2. Coal	000 Tons.	1,237	3,000	1,300
3. Coke	,,	—	—	—
4. Rock Salt	,,	217	400	356
5. Chromite	,,	15	50	60
6. Silica Sand	,,	26	50	180
7. Gypsum	,,	183	660	250
8. Limestone	,,	1,968	7,000	5,000
9. Marble	,,	—	—	15
10. Mica	,,	—	—	4
11. White Pottery clay	,,	—	—	35
12. Fire clay	,,	7	—	25
13. Crude Oil	Mill. Imp. gallons	38	200	200

5. During the Third Plan the mining industry has failed to receive the attention that it deserves. Coal production, for instance, will barely acheived 50% of the production target set for 1969-70, due largely to the non-implementation of the policy of not providing gas where coal can be utilised.

6. Exploration of oil and gas was Continued by private oil companies and the Oil and Gas Corporation of Pakistan. The discovery of oil fields at the Tut, Kot Sarang Mial are the most significant developments of the Third Plan. The oil fields of Tut and Mial are at present prodncing 2000 barrels a day.

GEOLOGICAL SURVEY OF PAKISTAN

7. The basic and long range function of the Geological Survey of Pakistan is to carry out systematic survey of the geological factors and processes. The mineral indications encountered in the course of such surveys are subjected to further exploration for their quality and quantity. In addition, the Geological Survey of Pakistan also carries out intensive survey for those minerals the presence of which is indicated by the geol maps and geological environment. Apart from geological mapping and surveys the Department carries out Engineering Geological studies and water resources evaluation required for the projects on Groundwater, Irrigation, Dams, Roads and Buildings, Control of Floods, Water-logging and Salinity, Town Panning, and heavy constructions. In support of these activities geophysical surveys including Resistivity Survey, Electro Magnetic Survey, Seismic Surveys and Gravity Surveys are conducted as and when necessary. Drilling is also carried out in the localities where the above surveys require further confirmation of the results.

8. The results of tall these activities are presented by the G.S.P. in the form of maps and reports which are utlised by various development agencies and parties to base their industrial and construction scheme.

9. The activities of this Department do not result in direct income to the Government but the findings constitute a major foundation for the formulation of projects based on utilization of indigenous earth resources of the country.

10. The achievements of the Geological Survey of Pakistan during the Third Plan period are given below :—

(1) *Mineral map of Pakistan.*—A mineral map of Pakistan on 1: 2 million scale is being prepared and 90% of the work will be completed by June 1970. This map shows the location of the minerals found in Pakistan, so far.

(2) *Fuel Map of Pakistan.*—A fuel map of Pakistan has been prepared and published on 1 : 2 million scale. This map shows the location of various types of fuel found in Pakistan along with their annual production and estimated reserves.

(3) *Geological mapping.*—As the trarget, an area of 10,000 square mile in East and West Pakistan has been mapped on 1 : 50,000 scale.

(4) *Exploration of Minerals.*—Spot investigations of reported occurrence of coal, gold, emerald, beryl, fluorite, mica, lithium mica, radioactive minerals, asbestos, pyrite, dolomite, limestone phosphate, fire-clay, china clay, glass sand, corrundum, gypsum, potash mineral, sulphur, celestite, barite and light weight aggregates have been carried out. The progressive results achieved in this field are as follows :

(*a*) A quality iron ore deposit was discovered in Chilgazi area, Chagai District, Quetta Division. The reserves have been estimated at 3 million tons. Further investigations are in progress and will be continued in the Fourth Plan period.

(*b*) Two localities have been discovered which have bright prospects for finding copper and antimony. The investigation of coppe deposit in Chagai and antimony near Chaman is in progress and will be continued in the Fourth Plan period.

(*c*) The feasibility of mining limestone and Gondwana coal near Rajshahi has been proved. The occurrence of clay for use in the manufacture of lightwieght aggregates has been proved in East Pakistan. The reserves are being estimated.

The status of the reserves of the mineral deposits at present is as follows :—

Name of Mineral	*Reserves*
Barite	.. Over 1,997,600 tons.
Bentonite	.. Over 99,000 tons.
Celestite	.. Over 3,000,000 tons.
China Clay ..	.. Over 6,13,000 million tons.
Chromite ..	.. Over 3,000, 000 tons.
Coal	.. Over 1,050,000 tons.
Felspar	.. 15,000 tons.
Fire clay ..	.. Over 17,000,000 tons.
Fluorite	.. Over 1,500 tons.
Fuller's Earth ..	.. Fairly large deposits.
Glass sand ..	.. Very large deposits.
Gypsum/anhydrite	.. Unlimited.
Iron Ore	.. 500,000,000.
Limestone	.. Unlimited.
Magnesite	.. 30,000 tons.
Marble	.. Very large deposits.
Rock Salt	.. Very large deposits.
Soapstone	.. Over 600,000 tons.
Sulphur	.. 1,25,000 tons.
Vermiculite ..	.. 11,500,000 tons.

(5) *Water resources and Engineering Geology.*—(i) The investigation regarding availability of consturction material in Dinajpur District has been completed.

(*ii*) Engineering geological studies along the Indus Valley Road have been completed.

(*iii*) Urban geological mapping of Karachi area has been completed.

(*iv*) Investigation for groundwater in Quetta and Kalat Divisions covering an area of 8,000 sq. miles have been completed.

(*v*) Water resources and Engineering geology investigation at 44 sites in West Pakistan have been completed.

(6) *Research studies.*—(*i*) Stratigraphical studies in Khyber Pass Region are being carried out and will be continued in the 4th Plan period.

(*ii*) Stratigraphical studies in Kohat tribal area are in progress and will be continued in Fourth Plan period.

(*iii*) Sulphide mineralization studies in Chagai District are in progress and will be continued in the Fourth Plan period.

(*iv*) Mineralogical studies of dolomitized rocks in Hyderabad Division are in progress and will be continued in the Fourth Plan period.

(*v*) Mineralization studies in Thano Bulo Khan are in progress and will be continued.

(7) *Geophysical Surveys.*—(*i*) Earth resistivity survey was carried out in Cholistan area, about 30% of the work has been completed.

(*ii*) Detailed gravity survey of 810 miles has been completed in Dinajpur District, East Pakistan.

(*iii*) Gravity survey of 4,000 sq. miles was carried out in Lahore Division, West Pakistan.

(*iv*) Detailed Magnetic survey 170 sq. miles was carried out in Rajshahi District, East Pakistan.

(*v*) Regional gravity and magnetic survey of 4,750 sq. miles in West Pakistan have been completed.

(*vi*) Seismic survey for coal in Rajshahi and Rangpur Districts, has been completed.

(*vii*) Earth resistivity survey in support of groundwater and engineering geology projects at 30 localities has been completed.

(8) *Publication.*—Based on the investigations carried out by G.S.P under the above mentioned projects and schemes, about 68 reports have been completed and issued.

STRATEGY OF THE FOURTH FIVE YEAR PLAN

11. In the past 22 years a sizeable ground has been covered in geological surveys and mineral investigations, the training of staff and acquisition of laboratory facilities, equipment and technical know-how to conduct detailed surface and subsurface geological investigations. The outlines of the geology of the country are now known enough to prognosticate and delineate the more promising areas for mineral exploration. The stage is now well set to launch a plan for extensive as well as intensive geological operations in the country so as to achieve the long

term targets in the shortest possible time. It is therefore proposed that the strategy during the Fourth Plan should be as follows :—

1. To use the existing G.S.P. staff and facilities to accelerate the pace of regional geological mapping, regional geophysical and groundwater surveys and the pace of work on research in Stratigraphy, Palaeontology and Petrology because this research is essential for any programme of geological mapping and ogelogical investigations.

2. Practically all the known mineral showings in Pakistan have been investigated and located on a map (*see* Fig.). Some of these are being exploited. Investigations have shown that a large number of the others are of economic value, while work on a few others is yet not conclusive. It is therfore proposed that work on these should be pursued and completed during the Fourth Plan.

3. When the known mineral showings in Pakistan are exploited on a geological map, it becomes apparent that most of the minerals show well defined genetic affinities to certain rock types exposed and found in various parts of Pakistan. These fall in well defined mineralised areas or belts, which may be referred to as " Mineral Districts ". From the present data, the following Mineral Districts may be identified :—

   (*i*) Bogra-Rajshahi region.

   (*ii*) Rangpur-Dinajpur region.

   (*iii*) Sylhet district.

   (*iv*) Chittagong Division.

   (*v*) Chitral, Gilgit region.

   (*vi*) Hazara, Swat, Dir region.

   (*vii*) Salt Range, Petwar region.

   (*viii*) Mohmand to Waziristan tribal area.

   (*ix*) Zhob district.

   (*x*) Chagai district.

   (*xi*) Khuzdar-Lasbela region.

   (*xii*) Tharparker region.

   It is, therefore, logical that thorough, detailed surface and sub-surface geological investigations of these areas should be carried out on a priority basis. It is proposed to take up the following regions during the Fourth Plan :—

   (*a*) Chagai District.

   (*b*) Bogra-Rajshahi region.

   (*c*) Rangpur-Dinajpur region.

   Since work must be done on a priority basis in these areas, within a given time of 5 years, and with the help of all the " tools and weapons " available in the arsenal of the geological science, it is proposed that these be investigated under special projects, with budget and staff separate from the present G.S.P. budget and staff.

4. It will take at least 15 years to completely investigate all the Mineral Districts in Pakistan. Meanwhile there is urgent demand for finding iron

ore deposits. One of the quickest means to explore the potential of magnetic iron ore and other magnetic minerals is to carry out air borne magnetometric surveys. In the Fourth Plan, it is therefore proposed to carry out aeromagnetic surveys in all the promising Mineral Districts and where-ever significant anomalies are revealed to follow these up with detailed ground investigations.

5. Some of the existing gaps in the G.S.P.'s laboratory facilities, equipment and specialised manpower should be filled in. The specialised staff and the laboratory facilities which will be attached with the G.S.P.'s permanent set up, will cater to all the geological projects, including the special projects.

6. It is felt that the expenditure on the above would neither be meaningful nor produce worthwhile results unless the conditions of service in the G.S.P. are improved and residential accommodation which is desperately needed by the staff is provided to them. Hence some provision must be made for this. To sum up, the strategy of the Fourth Plan will be :—

(1) Utilize the existing permanent set up of the G.S.P to accelerate geological mapping, regional geophysical and groundwater surveys and research in Stratigraphy Palaeontology and Petrology.

(2) Use the existing permanent set up of G.S.P. to follow up investigations of minerals that are likely to be of economic value.

(3) Under special projects, with additional staff and to extra funds conduct detailed investigations of :

(*i*) Chagai District.

(*ii*) Bogra-Rajshahi District and

(*iii*) Rangpur-Dinajpur District.

The strategy should be to utilise this staff in subsequent Plan periods in similar investigations of the other mineral Districts also.

(4) Under a special project and using extra staff to conduct aeromagnetic surveys of the other promising mineral districts.

(5) Fill in gaps in the existing laboratory facilities, equipment and specialised manpower in the Department.

(6) Improve service conditions in the Department and provide residential accommodation to the staff.

G.S.P.'s proposed long term activities

12. Before we set out to formulate the Fourth Five Year Plan, it is important to keep in view the perspective Plan targets and consider how many or how much of these targets can be reasonably achieved during the Fourth Plan.

13. G.S.P.'s proposed targets for the Perspective Plan Period (ending 1985) are briefly as follows :—

(1) Complete coverage of geological maps of the country on 1 : 25,000 scale. Complete geological mapping of 50% of the country on 1 : 50,000 scale. Preparation and compilation of regional geological, tectonic and various types of facies maps at suitable scales.

(2) Complete coverage of the country with gravity and magnetic surveys. Preparation of gravity and magnetic overlay maps for the whole country accompanied with suitable reports.

(3) Complete coverage of the entire country with hydrogeological investigations and evaluation of the ground water potential of the entire country.

(4) Complete coverage of the country by adequate geological reports which may be quadranglewise or district-wise.

(5) Preparation of minerals and metalogenetic maps of the whole country.

(6) Detailed mineral investigations over the entire country. Systematic investigations and evaluation of the mineral potential in all the major mineral bearing regions of Pakistan. These mineral bearing regions or districts have been identified as follows :—

(*i*) Bogra-Rajshahi region.
(*ii*) Rangpur-Dinajpur region.
(*iii*) Sylhet district.
(*iv*) Chittagong division.
(*v*) Chitral, Gilgit region.
(*vi*) Hazara, Swat, Dir region.
(*vii*) Salt Range, Petwar Region.
(*viii*) Mohmand to Waziristan tribal area.
(*ix*) Zhob district.
(*x*) Chagai district.
(*xi*) Khuzdar-Lasbela region.
(*xii*) Tharparker region.

(7) In addition to the detailed investigations in the above regions, concentrated effort to be made to trace and locate some of those minerals which are badly needed in Pakistan. These minerals are :—

(*i*) Fertilizer minerals.

(*ii*) Industrial minerals including various types of clays and aggregates.

(*iii*) Iron ore.

(*iv*) Radio-active minerals.

(*v*) Various types of placer minerals such as gold, platinum, uranium, titanium etc.

(*vi*) Detailed mineral prospecting in the offshore areas of East and West Pakistan up to the Continental Shelf limit.

(*vii*) A thorough study of the stratigraphy of the whole country and establishment of correlation of various rock units in different parts of the country. Standardization of the stratigraphic nomenclature of the various rock units in different parts of the country.

Need for detailed Geological and Economic Evaluation during the Fourth Plan

14. Geolojical Survey of Pakistan activities during the Fourth Plan will cover the following evaluaiion and Surveys :—

1. Saindak valley for copper, molydbenum and other sulphide minerals.

2. Chilghazi adjoinings areas for iron ore, gold and sulphide minerals.

3. Khuzder and adjoining areas for barytes, lead and zinc.

4. Pishin (Quetta Division) for antimony and mercury.

5. Waziristan for chromite, iron, copper, mangenese, and metamorphic minerals inculding gem stones.

6. Kirsna, Chiniot and Sangle hills, and basement complex of Nagarparker for petrographic and petrological studies and rock analysis for correlation with similar rocks in India.

7. Bahawalpur, bordering India, for Phosphorite, and Cretaceous rocks in other areas of West Pakistan.

8. Tribal Areas, including Khyber Agency, Kurram Agency, Mohmand Agency and Malakand Agency and Hazara for a thorough study of *Pegmatites* and metamorphic minerals.

9. Northern Areas for the same as under (8).

10. Zhob valley (Quetta Division) for chromite.

11. Study of mafic and ultramafic rocks of Chagai, Zhob, Waziristan and Malakand Agency with a view to evaluating nickel, cobalt, and other associated minerals.

12. Evaluation of the mangenese resources of Lasbela, Khuzder, Chagai, and Hazara.

13. Surface and sub-surface investigation of Sulphur deposits, in the Kalat Division.

14. Geological survey and drilling of the northern part of East Pakistan for hard rocks at workable depth for mineralizations and rocks as a source of road metal and building material.

15. General appraisal of the occurrence of various types of clays in East and West Pakistan.

16. Investigation to locate deposits of anhydrous clacium sulphate in West Pakistan.

17. Mapping of the entire country on 1:50,000 scale.

Tribal and Special Areas

15. For a variety of reasons, it has not been possible to give enough attention to the processing and exploitation of mineral reserves in the so-called "unsettled areas" of West Pakistan. There are definite indications of these areas which are agriculturally barren, being rich in mineral resources. While a fillip will be given to the proving and exploitation of the mineral reserves by the recent reforms merging the former States of Dir, Swat and Chitral with the N.W.F.P. province, special corporations are proposed to be established during the Plan period to accelerate development in the areas which remain special and settled.

Oil and Gas Prospecting

16. During the Third Plan, Government had continued to attach priorities to the prospecting of Oil, in the public sector through the Oil & Gas Development Corporation wholly owned by Government and also through assisting private Oil Companies in their operations.

(a) *Oil & Gas Development Corporation.*—The O.G.D.C., with the assistance provided by U.S.S.R., has carried out extensive geological/geo-physical/seismic surveys in both the Wings of the country. By the end of fiscal year 1969-70 drilling of 13 wells had been completed, and drilling of 10 wells was going on in both the Wings of the country. Drilling is a continuous process and is in progress at Tut & Kotsarang in West Pakistan and Jaldi and Semutang in East Pakistan. During the first five years of the Third Plan, the Corporation discovered one oil field at Tut in Pothwar Area in West Pakistan. From the first well in this area, an average of 500 barrels a day of oil was expected. The total reserves will be known after additional drilling and testing at that structure is completed. They have

also discovered a gas field at Sari near Karachi with reserves estimated to be .03 milion million cubic feet. During the 4th Five Year Plan the Corporation have estimated an expenditure of Rs. 428 million to take up exploration, development and production of oil and gas in the Public sector in East and West Pakistan. The estimated expenditure, Rs. 428 million to be spent during 4th Five Year Year Plan shows an increase of 70% over the allocated amount of Rs. 250 million during the 3rd Five Year Plan. From the above it will be seen that there is substantial increase (70%) in the estimates for oil and gas exploration in the 4th Five Year Plan by O.G.D.C.

The Fourth Plan makes a provision of Rs. 220 million for continuing the activities of the Corporation.

(b) *Private Oil Companies.*—while financing the Oil & Gas Development Corporation, Government have continued to assist the foreign oil Companies and their local subsidiaries in the search for Oil. The investment in the search for Oil by Private Companies is estimated to be of the order of about Rs. 250 million during the Third Plan and the contribution by Government at about Rs. 30 million. Government will continue to encourage private Oil Companies in the search for oil. The quantum of Government participation in each case will, however, be negotiated in the light of the availability of resources at the disposal of Government. The Plan makes a provision of about Rs. 30 million as Government contribution in the joint exploration ventures.

Regional Collaboration in search for Oil

27. Negotiations are in progress with Iran and other friendly countries for collaboration in the search for Oil and the development of the region's oil resources and during the Plan period all opportunities for collaboration in this field to mutual benefit will be viogrously pursued.

Natural Gas

18. During the search for oil large reserves of natural gas have been proved both in East and West Pakistan. In 1965 the total estimated reserves in Pakistan were 19.86 million milion cubic feet, of 14 Natural Gas fields ; 8 in West Pakistan and 6 in East Pakistan. There are now 17 gas fields in Pakistan (9 in West Pakistan and 8 in East Pakistan). Their total reserves have been estimated at 25.09 million million cu. ft. Only 3% of the total reserves of natural gas have been consumed so far.

19. A new discovery of natural gas deposits at Bakhrabad is a remarkable achievement with a large estimated reserve of 3.7 million million cu. ft. The present reserves of natural gas in West and East Pakistan are shown in the following table :—

West Pakistan	Estimated reserves m.m. cu. ft.	East Pakistan	Reserves
Sui	6.30	Sylhet	0.41
Zin	0.10	Chattak	0.02
Uch	2.50	Rashidpur	1.06
Khairpur	1.00	Kailas Tilla	0.60
Khandkot	0.20	Titas	2.25
Mazarahi	0.03	Habibganj	1.28
Mari	3 90	Bakhrabad	3.70
Dhulian	1.70	Jaldi	N.A.
Sarising	0.02		
Total ..	15.02	Total ..	9.34
GRAND TOTAL ..	25.09		

Gas and Oil Transmission & Distribution

20 (a) *Gas.*—Major projects which are now under preparation for the Fourth Plan period will relate to the expansion of transmission facilities for the supply of gas to Karachi, and North of Multan in West Pakistan and facilities for the supply of gas to Chittagong broadening in the gas net work so as to stimulate industrialisation in East Pakistan. The prospects of sufficiently large size gas transmission pipleline from Bhakarabad to Chittagong to feed the gas liquifaction unit for export of liquified gas will be carefully studied. Gas distribution acitvity both in East and West Pakistan will have to be enlarged in order to meet the needs of the consumers (*i.e.*, industrial, commercial, domestic etc.).

(b) *Oil Products Pipeline.*—The feasibility studies conducted so far have justified the need for laying a Petroleum Products Pipeline from Karachi to Multan. The proposed Oil pipeline will not only meet the needs of the areas north of Multan, but will also provide relief to the transport sector. A proposal for setting up of a product pipeline of 16" diameter and 525 miles length for the transport of Petroleum Products from Karachi to Multan at a capital investment of about Rs. 257 million is under consideration of the Government and the Pipeline is expected to be built during the Fourth Plan period. It is also envisaged that a pipeline from Pakistan Refinery to Karachi Airport may also have to be built in order to meet the fuel requirements of the Airlines.

(c) *Storage & Marketing Facilities.*—In order to meet the growing needs of Petroleum and its Products, terminal facilities will have to be expanded, depots will be constructed especially up-country and more filling stations will also have to be built up. This programme is expected to be taken up by the Private sector during the Fourth Plan period.

Coal

21 Coal is the principal mineral of Pakistan. A concerted search so far has revealed probable reserves of about 400 million tons in West Pakistan and 1,600 million tons in East Pakistan. The production target for the Third Plan was 3 million tons but the actual production will only be about 1.3 million tons. The exploitation of coal has suffered in the past because of the preference for natural gas. The coal reserves of West Pakistan can best be used for power generation. The policy in West Pakistan should be that where coal can conveniently be provided, gas will not be used as a fuel. Efforts will also be made to use the coal in other than conventional ways as low temperature carbonisation, for generation of power, etc. In East Pakistan the coal reserves, though of good quality, involve problems of deep mining which requires large initial investment—these problems will receive consideration.

22. In the Government financed sector a Project for production of about 30 lac tons per annum of coal from Jamalganj coal mine, which involves investment of about Rs. 910 million over a period of 8 years, is in the final stages of approval. Although production of coal under this be during the Fourth Plan period.

23. This project when operating at an optimum capacity of 30 lac tons of coal per annum is expected to meet not only the domestic requirements of coal of the country but will also earn foreign exchange by way of export of coal. It will also provide ample employment opportunities.

24. In West Pakistan sizeable deposits of coal are known to exist in Baluchistan, Quetta and Kalat area, Punjab, Trans-Indus area, Salt Range project will start from the 5th/6th year, the major part of the investment will and Sind area. The heating value of coal ranges from 7,000 to 12,200 B.T.U.

per pound. It is friable and relatively high in sulphur and ash content. It is unsuitable for conversion into metallurgical coke. But briquette can be produced which can be used in foundries and lime kilns and also in sugar mills. It can also be used in brick kilns and boiler plants and for generation of electricity. Lahra, coal field discovered during the Second Plan period is a large field of shallow flat lying coal, about 80 miles north of Karachi. The first coal seam is being mined in Lailian Collieries. The coal has a fixed carbon content of 29—48 per cent volatile matter 30—35 per cent, ash 7—25 per cent, sulphur 2—7 per cent and heating value ranges between 7,000 to 10,000 B.T.Us. per pound. According to the latest estimates the reserves are of the order of 240 million tons.

25 In East Pakistan coal of good quality was hit at a depth of over 3,600 feet and the drilling revealed a total thickness of 1,212 feet. The composit thickness of 108 feet of Gondwana bituminous coal has been improved. The latest estimates place the reserves as high as 1,600 million tons in Bogra and Jamalganj areas. The reserves of coal in Sylhet district are estimated at 3 million tons.

26 The present output in the mines which fluctuates from 0,6 to 1,1 ton per manshift, is not proportional to the conditions of the depth; it could attain, in comparison with similar conditions in other countries, an output of 1,6 to 2,2 tons per manshift. The so-called "small mechanisation", a sufficient amount of spare parts and a better organisation of work in the mines could contribute to that goal.

27 Production target of 3.5 million tons for 1974-75 has been fixed.

SELECTED MINERALS

Iron ore

28 The known iron ore reserves in Pakistan are estimated at over 400 million tons. The Chichali iron ore deposits are the largest known deposits in Pakistan. It is now established that iron ore at Chichali can provide the base for setting up a steel mill. While the setting up of a major steel mill based on indigenous ore continues to present problems of financing, a start with the utilisation of some of the Chilghazi ore for the production of pig iron will in any case be made during the Fourth Plan period.

29 Known reserve of 10 million tons Chilghazi ore contains about 3 million tons of medium rich magnetite which could be querried from the surface and transported 35 miles to the railway station Dalbandiu.

30 Reserves of sedimentary type ore are approximately 394 million tons whereas reserves of metamorphic and lateritic type are of the order of about 3.7 and 15.4 million tons respectively. Total available reserves of iron deposits in Hazara region are tentatively estimated at about 60 million tons. Galdanian and Abbottabad deposits are sedimentary layers of hematitic claystone. The ore is poor grade with high content of alumina, silica and undesirable elements like phosphorous and sulphur. Colite hematite ore of langrial is of interest as it has been laterly traced over a distance of 25 miles in sedimentary beds. Preliminary estimates of reserves are about 20 million tons of ore with an average iron content of 30—45 per cent. In Dammer Nissar (in Drosh District of Chitral) the reserves of magnetite iron ore are of the order of 3.7 million tons. The grade of ore ranges from 36 to 46 per cent iron.

Radio-active sand

31 Placer concentrations of heavy minerals are present in the sands along the ocean beach at Cox's Bazar, East Pakistan. The Placers are radio-active and include substantial amounts of zircon and small amounts of monazite. Twelve miles

of Beach were examined in this case and it is reasonable to expect that similar place. concentrations may exist along the entire length of similar beach from Cox's Bazar to 53 miles towards the Burma Border.

32 The reserves of heavy minerals in the placers examined are estimated to be 487,000 tons of sand containing 10 per cent heavy minerals, 163,000 tons of sand containing 20 per cent heavy minerals. and 6,300 tons of sand containing 30% heavy minerals. The average proportion of magnetite in the sand is only eight per cent of the heavy minerals but magnetite is locally abundant in certain small lenses.

Radio-active minerals

33 The discovery of uranium mineralization of sand stone of the " Siwalik group " has been made near Rakhimunh 32 miles west of Dera Ghazi Khan. No radio-active mineral could be identified, but at one place a yellowish-green material has been found. Prospecting has been carried out north of Rakhimunh. This straigraphic horizon, will have to be traced north and south for a considerable distance, because of the widespread distribution of " Siwalik " sand-stone in West Pakistan.

Baryte

34 A large deposit of baryte has been found at Gungao near Khuzdar. Reserves of the exposed mineral are estimated to be about 1.4 million tons. It is likely that a greater quantity of the mineral is present at a greater depth. Another deposit of baryte has been found near Kohala in Hazara District. The reserves here are estimated to be about 150.000 tons. Baryte is at present being imported mainly for use in oil well drilling. As the newly discovered deposits of baryte are developed, the import of this mineral will be reduced or stopped.

Salt

35 Geological studies of the Khewra Salt Mines area were carried out on scale of 1 : 250 feet in an area of 12—15 square miles and the reserve of salt have been estimated at 83,000,000 tons. More than 4,512 feet of salt was proved by drilling in the salt bed near Bahadur Khel in Kohat District.

Brines

36 A huge reserve of about 25 million barrels was discovered at Dhariala (District Jhelum) by Messrs. Attock Oil Company, which contains valuable salts of pottasium, sodium, magnesium and calcium, but has remained unexploited. Based on a flow of 300 barrels a day a single well will last for over 20 years. On analysis the brine is found to contain the following :

Pottasium chloride	6.5%
Magnesium chloride	16.8%
Sodium Chloride	3.1%
Calcium Chloride	6.1%

37 Further investigations are being made to ascertain the extent of reserves and the flow of brine. Salts extracted from the brine can be a good source of foreign exchange earnings and savings. The pottassium salt can be used as a fertilizer.

Chromite

38 Hindubagh Chromite deposits are at present the only commercial source of Chromite. However, chromite reserves have been reported from a few other localities in West Pakistan.

KALAT DIVISION

39 In the Rayr valley the reserves of all categories are estimated at 10,000 tons : nd in case of the Bunaj Chromite deposits, reserves of all categories are estimated at 10,500 tons.

PESHAWAR DIVISION

40 The Hari Chand chromite deposits reserves are estimated at 12,000, 14,000 long tons ; some deposits with a refractory grade : The lowest was 32.0% and highest 60.8% $Cr_2^0{}_3$-Average grade was 46.1% $Cr_2^0{}_3$.

QUETTA DIVISION

41 The principal chromite mining district is near Hindubagh in the ZHOB valley. In Hindubagh the ores contain 48% or more $Cr_2^0{}_3$ and with a Cr. Fe ratio of 3:1 or higher is termed high grade ; Ores of inferior quality are termed low grade.

Lime Stone

42 Lime stone is an important import of Cement, industry besides other consumers such as chemical, steel, sugar, soda ash, caustic soda industries. Large deposits of lime stone have been discovered at Jaipurhat but at a depth ranging from 13—1600 feet. Huge deposits almost all over West Pakistan exist and are planned to be exploited during the Fourth Plan.

43. Cement production target for 1974-75 will need over 900,000 tons of lime stone. The increase in the production of Steel ingots to approximately Further development of housing will require increased quality of lime stone. Further development of housing will require increased quality of lime stone. At least 230,000 tons and 700,000 tons of lime stone will be needed for chemical and sugar Industries. For production of 155,000 tons of soda ash and 1,10,000 tons of caustic soda in 1975, 350,000 tons of lime stone will be needed.

Sulphur

44 Sulphur can be obtained from the purification of Sulphur Ores from sour gases and from sulphur recovery units such as those in the oil and coal industry. Processes also exist for recovery of sulphur/production of sulphuric acid from Gypsum. Sulphur ores exist in West Pakistan in the Kohi-Sultan range and in the Sani areas of Baluchistan. Sulphur is currently mined in the former area but mining is limited due to extremely difficult conditions in the area of which the worst factor is the non-availability of water. The reserves of ore are unfortunately not large and it is doubtful if more than 1,000,000 tons of sulphur can be extracted from the Kohi-Sultan deposits. There are four refining units producing sulphur from the Baluchistan ores (three in the Karachi Area and one in Lahore) with a total capacity of 15,000 tons/year.

45 The main difficulty in bringing down the price of indigenous sulphur which is high is the extremely high cost of mining as well as the long freight haul. Another difficulty arises from the fact that the sulphur ores contain only 40—50% sulphur and substantial quantities of volcanic ash and hence recovery is difficult. In addition the railway freight for refined sulphur is very high, and hence the tendency is for sulphur refining plants to be established at points of consumption, which mean relatively small refining units.

46 During the Plan period emphasis should be placed upon lowering mining costs, as well as taking up the feright costs of refined sulphur with the Railways, in order to justify a plant to be located in the Baluchistan Area itself. A plant of 10,000 tons/year could then be considered. This source could not be considered for the very large quantities required for TSP manufacture, which would amonnt to 100,000 tons/year for the plants sanctioned in East and West Pakistan.

The only source of such quantities of sulphur would be the manufacture from sulphur from one of the following sources :—

(*a*) Recovery of sulphur from sour gas

(*b*) Recovery of sulphur from coal gas

(*c*) Recovery of sulphur from crude or furnace oil

(*d*) Direct Production of Sulphuric Acid from gypsum, or recovery of sulphur from gypsum.

47 There are at present no sour natural gases in Pakistan. Indeed most of the gases are remarkably sweet and contain very little sulphur. Nevertheless, at least in West Pakistan, some purification and recovery of sulphur is required and the purification and recovery plant being established at Sui should have a potential of about 5,000 tons/years. Coal is not being used in quantity for gasification in Pakistan except at Daud Khel where about 5,000 tons/year Sulphuric Acid is being manufactured from the Sulphur in the coal. This is, however, for a captive use. The only large potential source of Sulphur from Coal gasification is the possibility of using the high Sulphur containing Lakhra coal in the Sind area. About 3% Sulphur could be recovered and if a large power station was installed in the area, about 150 tons/day of sulphur or about 50,000 tons/year could be obtained from this source. However, the economics of the use of this coal, as against the use of natural gas, for power generation, will be further studied.

48 The next possibility is that of recovering sulphur from crude oil or furnace oil. Such plants are already operating in various parts of the world notably in Kuwait, with great success. They not only recover sulphur, but also decrease polution from the burning of the resultant products. By using high sulphur crudes, recovery as much as 2-1/2 of the crude could be obtained as sulphur. With a 3 million ton import of crude, this would give 75,000 tons/year sulphur which would go a long way to meet sulphur requirements. This operation, of necessity, should be integrated with refining and petrochemical operations, and then possibility will be persued during the Plan period with the expansion of oil refining and petrochemical development.

49 Pakistan has some of the largest deposits of gypsum in the world and, as proved at Daud Khel, very large deposits of Anhydrite also. These are a source of sulphur either to be recovered as Sulphur or as Sulphuric acid, in the latter case with simultaneously production of cement. The process for sulphur recovery from gypsum is still in an experimental stage and costs are relatively high. The use of gypsum, or batter anhydrite, should be confined to the production of sulphuric acid and cement. The standard kilns in use produce 200– 300 tons per day of Sulphuric Acid, and an equal quantity of Cement. The demand for sulphuric acid as such, excluding use for fertilizers can be estimated at about 30,000 tons/year in 1974-75, excluding demand for rayon and fertilizers.

50 The standard kiln produces about 60,000 tons/year acid. It is, therefore, suggested that apart from Sulphuric Acid production for sale, some demand of acid for fertilizers should be considered such as for instance, replacement of about 20,000 tons/year Sulphuric Acid used at the Phosphate plants at Lyallpur and Jaranwala from this source. In addition there would be defence requirements which together with other demands justify a 200 tons/day plant to produce sulphuric acid from Gypsum or Anhydrite. It is suggested that one such plant should be established in the Fourth Five Year Plan, with a capacity of 60,000 tons/year (the plant generally operates on 300 days/years).

An additional source of Sulphur would be the Pyrites reported to be available in quantity in Azad Kashmir. However, WPIDC has not yet estimated available reserves.

Silica Sand

51 For the production of 1.0 million tons of steel ingots in 1975 approx. 50% will be presumably used for foundry purposes. At a consumption of 8% silica sand will be needed, and, in 1985, when the production of ingots will be increased to 1.5 million tons of ingots, 120,000 tons silica sand will be needed.

52 For the production of refractory products, a consumption of 1.5% of silica sand of the weight of steel produced must be taken into account according to the present state of technics. That means, that for the production of 1,0 million tons of steel, 15,000 tons will be needed in 1975, and for the production of 3,0 million tons of ingots 45,000 tons of sand will be needed in 1985.

53 Glass industry, for which production capacity of over 90,000 tons exists in the country, would need large quantity of silica sand besides lime stone for optimum operation of the glass industry.

China Clay

54 WPIDC geologists carried out detailed investigation of China Clay deposits near Shah Dheri in Swat in 1963-64. Subsequently the feasibility studies of the deposits were got done through Japanese Consultants who proved its suitability for Ceramic and other purposes through large scale tests of the samples in Japan. Based on recommendations of the Japanese report a scheme for Mining and setting up a ceramic Complex at an estimated cost of Rs. 3.5 crores has been approved and arrangements are underway for its implementation.

55 Meantime a party has traced the extension of the China Clay deposits towards north where exploratory operations will be started after the winter season.

56 Recently W.P.I.D.C. geologists have discovered deposits of China Clay near Hanzal about 11 miles north-west of Gilgit on Gilgit-Yasin road. The deposits could not be studied in detail due to inset of winter season. However, some samples have been taken in shallow trenches and given to PCSIR, Lahore, for tests and analysis. Some of the analysis results show that the clay is suitable for ceramic purpose. Exploratory drills are scheduled to be started at these deposits as soon as the weather conditions permit.

57 Some packets of china clay have been located in Karo-Durra area near Korial and Kakabunk villages, about 24 miles south of Dir. These will also be explored in detail in the coming summer. A few samples taken from the deposits have shown encouraging results.

Magnesite Deposits

58 The Magnesite deposits discovered by W.P.I.D.C. geologists near Sherwan, District Hazara some two years ago, have been studies in further detail. Representative samples have been taken from various parts of the deposits and sent to PCSIR Lahore, for analysis and tests. The analysis results of some 50 samples have shown that the magnesite is of a high grade and is specially suitable for chemical purposes. The reserves are extensive and would be confirmed during the 4th Plan.

59 Meantime M/s. Chemical Consultants, Karachi have been commissioned for conducting a feasibility study of these deposits. WPIDC have applied for prospecting licence of these deposits. A programme of exploratory drilling/ tunnelling will be under taken after the grant of the licence, during the 4th Plan.

Limonite Deposits

60 In Azad Kashmir deposits of limonite discovered at Reshian, 48 miles south-east of Muzaffarabad, by our geologists in early 1969, has been developed and put into production.

61 About 400 tons of limonite per annum is required for Fertilizer Factory at Daudkhel. This quantity was formerly imported and is now totally replaced by the Azad Kashmir limonite. Besides, limonite as red and yellow oxides, is imported for paint industry. The test conducted by one of the leading paint manufacturing firm of Karachi on Azad Kashmir limonite has proved its suitability for the paint industry. Considering the high cost of imported limonite, it is expected that substantial amount of foreign exchange will be saved by use of this indigenous raw material.

Pyrite

62 The first economically interesting deposits of Pyrite in the country were located at Rashian in Azad Kashmir in April 1969 by WPIDC Geologists. There are 6 veins of solid crystalline pyrite, ranging from about a foot to over 8 feet in thickness, and during parallel to the bedding plan of the host rock (phillitic schist). They are contained in a 70 feet thick one of schist with an aggregate thickness of 28 feet and exposed over a lateral distance of about 500 feet. The deposits appear to be extensive but largely concealed under debris and loose soil.

63 An exploratory tunnel has been driven in the deposits. After a drivage of 60 feet, the drift was held up due to inflow of water and mud. Meanwhile a preliminary geophysical survey of these deposits have been got conducted with the help of the Geology Deptt of the Punjab University. It is proposed to re-start exploratoy drilling with the help of G.S.P.

Graphite

64 Graphite deposits are extensively developed in Reshian and Nauseri area of district Muzaffarabad, A.K. The Reshian deposits lie in East of Muzaffarabad and are approached at Reshian village which is linked by a 17 miles fair whether motorable road with the Muzaffarabad –Srinagar highway at Naili, 30 miles from Muzaffarabad. The deposits have been studied in detail and explored in a drift of 120 ft. length. A number of channel samples analysed at PCSIR Laboratories Peshawar, have shown graphitic carbon ranging from 5 to 19 per cent and rarely still higher.

65 The graphite formations appearing at Nauseri, 27 miles west of Muzaffarabad in the Nilum valley are considered the extension of the Reshian deposits. The ore is composed party of flaky graphite and has been analysed with an average of 15 per cent graphitic carbon. The Nauseri graphite has been explored in tunnels with an aggregate length of 750 ft. Bulk samples taken from the drifts were subjected to beneficiation tests at PCSIR ore dressing Laboratory, Lahore. The material is successfully upgraded with 57 per cent carbon and is considered prone to further concentration. The graphite deposits are considered promissing particularly in the face of drain on our foreign ex change on its imports. It is planned to engage competent foreign firm to conduct beneficiation tests on industrial scale and carry out its feasibility studies.

Copper Deposits

66 Minor showings of copper are known at several localities in West Pakistan but none of these have so far been proved economically workable. Of late WPIDC geologits have investigated a wide spread area of copper mineralization in north east of Gilgit. In southern part of the area, near Barit village, copper sulphides are associated predominantly with quartz veins with an average copper content of 0.5 per cent. In Surgin Glacier area in the north, the copper sulphides occur as disseminated grains in the host rock (Volcanic rocks and limestone) covering an area of 10 sq. miles. The biggest sulphite zone in the area is 50 ft. × 2,000 ft. The copper content averages to 0.7 per cent. A programme of driving exploratory drifts to prove the reserves in quality and quantity in the area is planned and will be started with collaboration of GSP and PCSIR.

Other Minerals

67 Among other minerals investigated by WPIDC are iron and copper deposits near Parachinar in Kurram Agency, copper in north Waziristan, cement raw materials in Khyber Agency and several other areas of West Pakistan, manganese in Kakul and Ghuragali, District Hazara, Copper, lead, pyrite and rubby, garnet in Gilgit, Mica, nickle, cobalt, scheelite and rare elements in Dir/Swat areas and and bauxitic fire clays, felspar marble and several other minerals in Azad Kashmir. Based on the results of analysis of the samples, all these mineral showings are considered economically interesting and some of them are subjected to exploration by drifts, pits and trenches and these are proposed to be subjected to further investigations exploration during the 4th Plan.

FOURTH PLAN DEVELOPMENT PROGRAMMES

68 The mining industry in Pakistan is still in an elementary stage. Its contribution to the Gross National product is hardly 0.4% as compared to 5.4% (Turkey) 1.1% (India) and 9% in USSR. The Fourth Plan's development programme, apart from increasing the fuels and minerals sector's contribution to the Gross National product, must not only keep pace with the growth of mineral-based industries but should also take into consideration the export prospects as well as the replacement of imports. To meet these objectives, more attention will be given to the exploration and development of fuels and minerals resources.

STRATEGY AND PRIORITY

69 The lack of satisfactory progress in the fuels and mineral sector, particularly in regard to the exploitation of solid minerals, is in part due to the blurring of responsibility between the various agencies, central and provincial, involved in the geological survy of the reserves, their proving, exploitation and development. A Geological and Mineral Development Coordination Board has recently been set up with the following terms of reference:—

(i) to plan and coordinate the annual programme of work of various agencies, both central and provincial, connected with geological work and mineral development (*e.g.* GSP, OGDC, AEC, IDCs and the Universities);

(ii) to review the activities of all organisations operating in the field of geological work and mineral development;

(iii) to ensure proper and adequate utilisation of survey work by agencies concerned with exploration and development;

(iv) to avoid overlapping of activities by various agencies working in this field.

Major reliance will be placed on this Board to coordinate and stimulate the development of the mineral resources throughout the country.

70 Following measures are necessary for speedy development of this Sector :—

(1) National priorities for the development of mineral and fuel resources should be formulated.

(2) Mineral-based industries should be encouraged and all possible incentives and encouragements should be extended.

(3) Foreign training programmes should be vigorously followed so as to evolve balanced technical manpower as regards fields or the geosciences.

(4) Consultancy centres should be set up in areas of major mining activity.

(5) Procedures for getting prospecting licence and mining lease etc. should be simplified.

(6) Revised mineral concession rules should be applied in all regions of Pakistan.

(7) Private sector in mineral development should be actively associated with planning and coordination programmes.

(8) Tax-incentives for training of workers for the mining industry should be introduced.

71 Another factor responsible for the slow progress in the field of fuels and minerals was lack of infra-structure in areas in which minerals exist and also areas which are considered promising. The urgency for construction of roads, providing power and water needs to be emphasised as this will result not only in development and exploitation of mineral wealth of those areas, which are relatively under developed, but will also provide employment opportunities.

72 The fuels and mineral sector has a key role to play during the Fourth Plan period and must therefore receive high priority. This key role is further underlined by a rising gap between the consumption and indigenous production of petroleum products. The later presently represents a bare 15% of the total consumption which may further reduce unless the importance of utilisation of coal and gas is realised. The increasing requirements of POL products will necessitate the expansion of refining capacity by about 2 million tons in West Pakistan and 1.5 million tons in East Pakistan. Apart from fuels, this sector deserves priority because of the raw materials (natural gas, sulphur, etc.) it alone can provide for industry and because of the contribution it can make to the reduction of inter and intra-regional disparities.

Mineral Research

73 The need for research on the utilization of minerals resources cannot be overemphasised. The Pakistan Council of Scientific and Industrial Research is looking after this and have done a lot of useful work. Efforts will be made to ensure that this work is done in a coordinated and regular methods. The mineral testing laboratories will be strenghened both in equipment and manpower.

Investment

74 The Third Plan envisaged an investment of Rs. 1,524 million for the development of fuels and minerals sector out of which Rs.592 million was the Government investment. According to the indication available at present the investment in the fuels and minerals sector is estimated to be about Rs. 1,100 million which includes Government investment of about Rs. 510 million.

75 According to the development programme drawn up by the Central and Provincial Government Divisions, Departments and other Agencies concerned the

investment is estimated at about Rs. 3,252 million but because of the paucity of resources particularly in the public sector, it is not possible to accommodate this programme fully in the Fourth Five Year Plan. Consequently investment on certain projects will have to be staggered over a longger period which would flow into the Fifth Five Year Plan. In the Fourth Five Year Plan provision is made for a development expenditure approximately of Rs. 1,875 million including Rs. 577 million in the public sector. This reflects an increasing reliance on private investment in the development of fuels ; and mineral resources particularly in West Pakistan. The plan programme for minerals and fuels development is summarised in the following table :—

(Million rupees)

	Total	East Pakistan			West Pakistan		
		Centre	Provl.	Private	Centre	Provl.	Private
1. Geological Survey ..	50	20	—	—	30	—	—
2. Oil & Gas Development Corporation..	217	115	—	—	102	—	—
3. Private Cos. Oil & Gas Prospecting	200	15	—	85	15	—	85
4. Gas & Oil Transmission and distribution	860	40	—	130	40	—	650
5. Coal & Peat	210	—	80	—	—	70	60
6. Selected Minerals ..	320	—	17	35	—	28	250
7. Training and Research ..	5	—	3	—	—	2	—
Total Programme ..	1,872	190	100	250	187	100	1,045

Expected Results

76. The proposed investment size of about Rs. 1875 million whichin cludes Government investment of about Rs. 577 million, is expected to enable us to achieve the following production targets in 1974-75 :—

Bench Marks and Physicsl Target for the Fourth Plan

	Unit	Bench mark			Targets		
		Pak.	E. Pak.	W. Pak	Pak.	E. Pak	W. Pak.
1. Coal	000 tons	1,300	—	1,300	3,500	—	3,500
2. Iron Ore	,,	—	—	—	300	—	300
3. Rock salt	,,	356	—	356	500	—	500
4. Chromite	,,	60	—	60	80	—	80
5. Silica sand	,,	180	25	155	300	80	220
6. Gypsum	,,	250	—	250	500	—	500
7. Limestone	,,	5,000	120	4,880	10,000	1,000	9,000
8. Marble	,,	15	—	15	30	—	30
9. Mica	,,	4	—	4	6	—	6
10. White Pottery clay ..	,,	35	5	30	150	15	135
11. Fire clay	,,	24	5	20	50	10	40
12. Sulpher	,,	4	—	4	20	—	20
13. Natural Gas.	000 Mill. cf.	130	15	115	410	210	200
14. Crude Oil	Mill. Imp. gallons.	200	—	200	350	—	350

CHAPTER 22

POWER DEVELOPMENT

1. The country although has come a long way in developing its power resources since independence, installed capacity increased twenty times from 130 MW in 1947 to 2,590 MW in 1970, its level of *per capita* generation is still woefully low at 61 units. The bulk of the people are still denied the benefits of electricity and only 1.7 million out of a total population of 132.3 million are registered electricity consumers. In this context availability of cheap and abundant supply of power is of paramount importance not only to create physical infrastructure for economic development particularly in East Pakistan but also to spread the social benefits of power supply to a larger section of the population. Within the limited financial resources, therefore, top priority has been given in the plan to generation, transmission and distribution of power throughout the country.

2. The Plan aims at increasing the installed capacity from 2.6 million kw to 4.3 million kw, the level of *per capita* generation to 112 units and to bring the benefits of electricity to additional one million consumers. Care has been taken to ensure that the programme is consistent with the plan requirements of the production sectors and is the maximum feasible programme the country could undertake with the prevailing financial and physical constraints.

3. The two wings of the country have different problems in respect of power development and accordingly different strategies have been followed in framing the programme for East and West Pakistan. In East Pakistan the flat deltaic land offers little scope for the generation of hydro-electric power. The main river system divides the province into eastern and western zones, each having a separate supply network. Natural gas reserves in the eastern zone, however, are appreciable with scope for extensive exploitation for cheap thermal power generation. The western zone on the other hand is high cost energy area dependent on imported fuels. The main river with large seasonal variations of water discharge and shifting beds makes reliable interconnection between the two zones difficult. In West Pakistan the mountainous northern areas provide a large source of hydro-electric power which is subject to seasonal variations. Natural gas, however, is plentiful in the southern zone for firming up the hydro-electric potential in the north. In order to meet the power needs at minimum cost the interconnection of hydro-electric stations with thermal stations is necessary. Very high voltage transmission lines, however, are required because of the long distances involved and large quantums of power transfers.

WEST PAKISTAN

Progress under Third Plan

4. Power facilities in West Pakistan during the Third Plan continued to expand inspite of the severe power crisis in the first half of the Plan period due to the failure of major thermal power station at Multan (260 MW), delay in the completion of the Lyallpur power station (132 MW) and Hyderabad extension (23 MW) and shortage in number of grid stations and undercapacity of transformers. Some of the features of this expansion are : installed capacity from 1000 MW to 1920 MW, total generation from 3610 million kilowatt hours to 6700 million kilowatt hours inclusive of captive industrial generation, *per capita* generation from 70 units to 112 units, length of transmission and distribution lines 11 kv and above from 13,500 miles to 38,000 miles, number of consumers from 0.84 to 1.48 million.

5. In spite of this expansion, however, complaints about the poor quality of service not only persisted but increased. Deficits appeared for the first time

in the revenue accounts of WAPDA. It has, therefore, become imperative to improve the efficiency of the public utilities in order to improve the level of reliability and the quality of service to consumers.

Objectives

6. The objectives during the Fourth Plan will be :

(*i*) to remove the deficiencies which emerged during the Third Plan period.

(*ii*) to sustain economic growth by meeting the increasing needs of the productive industries.

(*iii*) to strengthen social services and improve the economic efficiency of the rural areas by undertaking rural electrification in conjunction with Tube-well electrification.

Strategy

7. Greater emphasis will be placed on improving the operating efficiency of the public utilities, particularly that of the Water and Power Development Authority. Efficiency can be introduced by creating proper balance between generation and marketing facilities, reducing power losses (recorded as high as 32% of total generation) and employing better operating and maintenance techniques (the failure at the Multan Power Station was due to inefficient operation and poor maintenance). The Plan attempts to achieve a balance between generation and marketing facilities through higher allocations to distribution than in the previous plans. WAPDA on the other hand will have to take concerted action to reduce the losses in the system and to evolve better operating and maintenance techniques and to improve its distribution system. Emphasis will be placed on creating more grid stations with shorter feeder circuits, renovating existing distribution mains through replacement of transformers and installation of shunt capacitors and feeder voltage regulators to stabilise voltage to consumers. These works will have to be undertaken simultaneously with extension works to give new connections for spreading the social benefits.

8. Serious doubts have been expressed on the ability of WAPDA to shoulder the responsibility of retail distribution of power alongwith the construction of major power and irrigation facilities. Consideration, therefore, should be given to the bifurcation of the power wing from WAPDA or at least the separation of retail distribution and its handing over to an autonomous power corporation in the province.

9. The different zonal systems which are at present isolated need to be interconnected by transmission lines capable of carrying large quantums of power in order to meet future needs at minimum costs. During the Fourth Plan the Northern system is proposed to be integrated with Upper Sind system by construction of E.H.V. interconnection between Guddu and Lyallpur and the lower Sind system with Karachi system by permanent 132 KV lines. The integration of the Northern region with the southern region by means of the Guddu-Karachi E.H.V. link has been postponed to early Fifth Plan because

(*a*) surplus hydro power from North becomes available in appreciable quantities justifying E.H.V. interconnection only after the commissioning of Tarbela in late 1975.

(*b*) optimum utilization of Tarbela power is not possible till E.H.V. interconnection between Tarbela and Lyallpur is energised in 1975-76.

The Guddu to Karachi E.H.V. link, however, should proceed directly along the right bank of the Indus. It should be made to pass over Lakhra Coal field which will facilitate the interconnection of a coal based station with the national grid later in the future. Besides on this route the transmission line will traverse an area north of Karachi which has less alkalinity and salinity in the air compared to the Karachi-Kotri area.

10. Sizeable agricultural load has emerged during the Third Plan which contributes to large seasonal variations in peak demand particularly in WAPDA's northern gird system and Upper Sind. This seasonal variation for the integrated northern grid and Upper Sind system in 1975 is expected to vary from 1355 MW in April to 1520 MW in September which would include 95 MW of public tubewell load in April and 204 MW in September. It has been observed that the critical month in respect of supply is April when the output of the hydro electric power stations is geatly reduced due to fall in the reservoir water levels and not the month of September when the maximum demand occurs because the increase in demand is taken care of by the increased capability of the hydel power stations which is maximum at that time. Accordingly, the Plan programme for additional generation for the Northern grid and Upper Sind has been evolved after examining the computer runoffs on monthly basis in respect of generation capability versus demand with special reference to the month of April for average water years. Taking congnisance of the fact that the major generation scheme involving installation of a 200 MW unit at Guddu power station is progressing very slowly, the system capability has been tested against demand without this unit but including availabilities from ongoing Mangla units 5 and 6, Guddu units 1 and 2, and new Mangla units 7 and 8. Under the above condition, in April, 1973-74 the system capability will be 1448 MW, firm capability 1348MW as against peak load of 1243 MW inclusive of 95 MW on account of public tubewells, which could be substracted from the peak load. The reserves available are considered sufficient for the annual maintenance of generating units and spinning capacity *inter alia* for voltage and frequency control. In April 1974-75, however, the system capability and firm capability will be the same but peak load is estimated to reach 1355 MW, 7 MW more than the firm capability if no allowance is made for shedding public tubewells. The position will be slightly tight for about 3 months if Guddu Unit 3 is delayed but with proper planning of system operation in respect of annual maintenance etc., it could be tide over till the advent of Tarbela Power in June, 1975.

11. The Hyderabad-Karachi pooled system in the sourthern region will be interconnected with the Northern region in early Fifth Plan and as such the strategy for the Fourth Plan involves balancing the firm capability of the pooled system with the system demand in such a manner that after interconnection with the Northern region the excess on gross capacity matches the import from the North upto at least the mid fifth plan period. This would require the commissioning of a 200 MW power station in the pooled system by 1974. Accordingly, the Plan includes investment for commissioning of a 200 MW power station at Karachi in the private sector not only because of cheaper sources of generation at Karachi but also because of financial constraints in the public sector programme for the Power Sector in West Pakistan.

12. Peak lopping *i.e.* maximising energy at the expense of demand capacity merits serious consideration during the Fourth Plan particularly in the northern region. This would enable postponing investment in additional units at Guddu and possibly the later units at Tarbela. Peak lopping could be achieved by encouraging energy usage during off peak load hours through tariff incentives and/or by forced restricted hours of supply by installation of time switches at the consumers' premises. The additional cost involved in double metering and time switches will be negligible in comparison to capital cost of additional generating equipment.

13. Lag in the growth of agricultural sales during the Third Plan was not only due to load shedding but also indicated widespread theft of energy by meter tampering, wrong reading etc. With the introduction of double metering this danger may increase further. Obviously, there is an urgent need to eradicate these mal-practices. An independent inspection squad could be created in WAPDA for inspection of consumer premises and checking of meter readings to reduce the losses. Cooperation from the consumer will be essential. The existing mal-practices, however should not deter WAPDA from embarking on a programme of double metering at least in selected areas on an experimental basis to effect peak lopping, which besides postponing capital investment will also result in reduction of energy price, particularly the fixed part of the two part tariffs.

Programme

14. The programme in the public sector provides for the speedy completion of the following on-going and new generation schemes :

Guddu units, 1 and 2	220 MW in 1971-72
Guddu unit, 3	200 MW in 1974-75
Mangla unit, 5	100 MW in 1970-71
Mangla unit, 6	100 MW in 1971-72
Mangla unit, 7	100 MW in 1972-73
Mangla unit, 8	100 MW in 1973-74
Tarbela 1 and 2	350 MW in June 1975
Quetta 3 and 4	15 MW in 1973-74

15. The progress is behind schedule in respect of Guddu unit 3 of 200 MW and the commissioning of this set during the Plan period appears doubtful. It is possible, however, that the progress on this project may improve during the currency of the Plan period. In the private sector the Plan provides for the commissioning of a 200 MW conventional power station at Karachi. The need for additional generation at Karachi has been established on the basis of the planning criteria discussed in the strategy. The following table summarises the different sources of generation which are included in the programme.

WEST PAKISTAN

Installed capacity by source of generation

	1965	Target 1970	Achievement 1970	Target 1975
Hydel	269.7	669.7	667.8	1,417.8
Steam (*plus* Gas turbines) ..	487.3	1,190.0	1,028.7	1,437.7
Diesel	58.0	28.0	46.9	20.0
Nuclear	—	125.0	—	125.0
Sub-Total ..	815.0	2,012.7	1,743.4	3,000.5
Captive Industrial Capacity.	185.0	150.0	180.0	150.0
Total ..	1,000.0	2,162.7	1,923.4	3,150.5

16. Provision has been made for the retirement of the old-steam power stations at Lyallpur (13 MW) Sahiwal (6 MW) and Hyderabad 5.7 MW. No additional diesel capacity is planned to be added and the existing capacity has been reduced substantially to cover the retirement of obsolete diesel units for reasons of economy and availability of power from large central generating stations.

17. The allocation required for generation in the public sector is Rs. 708 million including Rs. 493 million on account of on-going generation schemes which constitutes 28% of the total allocation.

18. Power planning in West Pakistan has a space dimension and the demand and availabilities discussed in the strategy become relevant only when the different markets are interconnected by transmission lines. Although the programme provides for E.H.V. interconnection between Guddu and Lyallpur, it is doubtful that the line would be commissioned during the Plan period. It is necessary to synchronise the completion of this line with the commissioning of Guddu Unit 3 of 200 MW. The existing and under construction 132 KV lines from Guddu to Dharki in the north and Sukkur in the south, however, will be commissioned during the Plan period which would ensure the absorption of the output of Guddu Units 1 and 2.

19. The programme provides for the speedy completion of the transmission lines associated with Mangla Dam Units 1 and 4 comprising 220 KV double circuit line from Mangla to Kala Shah Kaku, single circuit 220 KV line on double circuit towers between Kala Shah Kaku to Kot Lakhpat and 220 KV double circuit transmission line from Kala Shah Kaku to Lyallpur. These lines were scheduled to be completed in November, 1968, but due to unforeseen circumstances were delayed and only certain sections will be energised by the end of the Third Plan period. It is important that strengthening of this system is not similarly delayed and effort should be made to phase this work in a manner which would synchronise with the phased commissioning of the under erection and planned Mangla Units 5, 6, 7 and 8 provided under the generation programme. The strengthening would involve construction of a second double circuit 220 KV line between Mangla and Kala Shah Kaku and 220 KV double circuit line between Mangla and Wah besides stringing the second circuit on existing double circuit towers between Kala Shah Kaku and Kot Lakhpat.

20. Since the first two Units at Tarbela are scheduled to be commissioned by June, 1975 and since it does not appear possible at this time to inter-connect Tarbela with Lyallpur by that date, the programme includes construction of 3—220 KV transmission lines between Wah and Tarbela to be completed by June, 1975. It is important, however, to plan, finance and implement the E.H.V. inter-connection between Tarbela and Lyallpur as early as possible not only to utilize the output of the later Tarbela Units, but also to give a meaning to the integration of the northern region with southern zone and Karachi. Provision has been made in the Plan to initiate the construction of this vital link.

21. The allocation to transmission, stands at Rs. 569 million, of which Rs. Rs. 419 million will be on account of the ongoing schemes of Mangla Dam transmission and 500 KV E.H.V. interconnection between Guddu and Lyallpur and Guddu and Karachi. The allocation for transmission constitutes 22% of the total outlay in the public sector for power development.

22. During the Third Plan the service was marred by load shedding and abnormally high system losses. The amount of load shed during the months of July and August, 1968 was of the order of 0.9 million KWH per day. (The total amount of load shed during these two months was 56 million KWH). The parameters by which the quality of service is measured *viz.* frequency and voltage

conditions at the consumers' premises left much to be desired. Another serious aspect has been the increase in system losses as percentage of energy generated (20% in 1960, 26 % in 1964 and 32% in 1968)

23. Failures of existing power stations, delays in completion of new power stations and transmission facilities inadequacy of the distribution system particularly the shortage of grid stations, longer than permissible lengths of feeder circuits and under capacity of distribution mains and transformers contributed to a large extent to load shedding poor quality of service and increase in system losses. The distribution programme, therefore, includes installation of 26 new 132 KV, 39 new 66 KV and 1 new 33 KV substations, extension of 30—132 KV and 56—66 KV substations, conversion of 25 substations from 66 KV to 132 KV in addition to the 38 gird stations for which orders have already been placed. It also includes the renovation of existing distribution mains and replacement of transformers not only to improve the reliability and quality of service but also to reduce the abnormally high system losses, a large percentage of which occurs in the distribution system.

24. The distribution programme besides the above work aims at providing service connections to 630,000 new consumers in WAPDA system which would bring the total number of consumers in the province to more than 2 million by 1975.

25. The rural electrification programme has been adopted in conjunction with Tubewell electrification largely as a social service. Since it cannot be regarded as a paying commercial proposition, care has been taken to see that this programme does not impose excessive financial handicaps on the power industry. Accordingly, only 1,000 villages are planned to be electrified during the Fourth Plan period.

26. The financial outlay on distribution will be of the order of Rs. 1,250 million—about 50% of the total capital outlay of Rs. 2,527 million for Power Development in the public sector during the Fourth Plan. The physical and financial targets of the programme are presented in Annexures.

EAST PAKISTAN

Progress under Third Plan

27. Power facilities during the Third Plan continued to expand in this province also. The total generating capacity more than doubled from 300 MW to 670 MW (inclusive of 120 MW of captive industrial capacity), length of transmission and distribution lines nearly tripled from 2300 miles to 6312 miles, number of consumers increased from 140,000 to 220,000 and *per capita* generation from 13.2 units. to 18.2 units. Despite this expansion, however, the overall picture was one of shortfalls particularly in respect of demand targets and consequent sales and revenues. In overall terms the Third Plan witnessed a modest growth of 58% in total generation and 38% in *per capita* generation. The growth which was rapid in the earlier part of the Third Plan slowed down considerably in the later years due to general unrest in the province. In generation capacity the shortfall is 290 MW most of which, however, is expected to be made good in the first year of the Fourth Five Year Plan.

28. The supply position during the Third Five Year Plan remained unsatisfactory in the province due to delays in the execution of almost all the major generation schemes, occasional failures of the Karnaphuli Hydro Electric Power Station, break-down of the Karnaphuli-Siddhirganj interconnector on account of unprecedented cyclones and above all inadequacy of marketing facilities. Installation of gas turbines with an aggregate capacity of 141 MW was undertaken on a crash basis during the currency of the Plan which resulted in improving the supply position to a limited exetent only in the region east of the river Brahmaputra.

Objectives

29. The objectives of the Fourth Plan are :

(*a*) Taking the on-going generation and transmission schemes to speedy completion,

(*b*) Creation of additional distribution facilities on an emergency basis to strike a balance between generation and marketing facilities,

(*c*) Expansion of power facilities in North Bengal to cater for the projected industrial development of that region, and

(*d*) Improvement of power supply position in the district towns and mufassil areas in order to spread the social benefits of power supply.

Strategy

30. East Pakistan has for long had an extremely inefficient and costly service based on a large numbr of small stations comprising old and obsolete generating units operating at low fuel efficiency and inadequately inter-connected. There was, therefore, an urgent need to replace these inefficient units by larger units with lower heat rates and higher thermal efficiencies. For the first time an attempt was made during the Third Plan to install generating units of sizes 50 MW and above in order to provide cheap and abundant supply of power. The effect on production costs and efficiency due to retirement of obsolete plants and their substitutions by more efficient larger units would be felt during the Fourth Plan period. The old practice of building up demand by creating small isolated stations should be discontinued and instead transmission lines from central generating stations properly interconnected should serve this purpose. Additions to generating capacity during Fourth and subsequent Plans should, therefore, be made by installing new or augmenting existing central generating stations.

31. On the basis of the financial allocations and physical targets for the production sectors in th Fourth Plan the energy requirements of the provinc are estimated to reach 3750 million KWH by 1975. Of this 74% will be in the industrial sector, and 19% in the agricultural sector on account of irrigation-*cume* drainage programme. The annaul load factor of the WAPDA system was 62% in 1960 but has now stabilised at 56% which is likely to continue and would result in generating a peak demand of around 765 MW in 1975. Here also as in the case of West Pakistan effort will be made to lop the peak by operating public tubewells during off peak load hours. This would not only help in postponing capital investment in generating capacity but will also allow lower electricity rate for the agricultural sector.

32. The total installed capacity in the province on completion of the on-going generation schemes and the proposed nuclear plant (200 MW) which is being provided separately under the central programme is 1,080 MW. This would provide reserve generating capacity of over 300 MW in the integrated provincial system which would be sufficient to meet the power demand during the normal and emergency shut down of the 200 MW nuclear plant. At the same time there would be sufficient reserves for annual maintenance of generating plant and spinning capacity *inter alia* for voltage and frequency control.

33. The first and foremost task in the Fourth Plan is to create adequate transmission and distribution facilities to market the power which would become available on completion of major on-going generation schemes. Accordingly, greater emphasis has been placed on adequate interconnection of power stations, laying of transmission lines to all load centres in the province and expansion of the distribution network. Two indepedent grids are emerging in the zones

east and west of the river Brahamaputra. The two systems will be interconnected in order to make optimum use of low cost energy available in the eastern region from natural gas and to provide high plant factors to the nuclear generating facility being installed in the Western region. In view of the complexity and enormity of the physical task involved the engineered plan of the interconnector project was carried out on the basis of the recommendations of experts of world repute in the fileds of hydrology and transmission line construction.

34. The parameters for testing the quality of service are reliability and maintenance of correct voltage and frequency levels. Here again as in the case of West Pakistan there have been persistent complaints regarding the poor quality of service. The power cuts during the Third Plan have resulted in loss of industrial production and hardship to general consumers. As in the case of West Pakistan it is planned to create additional sub-station capacity, provide alternate sources of supply by establishing transmission line loops and stabilise voltage to consumers by installing feeder voltage regulators and static condensers.

35. These additional physical facilities themselves will not improve the quality of service to the desired extent unless unecessary structural and institutional changes are also made in order to improve the management. We see no justification to retain WAPDA as a single agency responsible for the development of both Water and Power resources more so in East Pakistan due to absence of hydro-electric potential in the province. In view of the increased tempo of development activities in both the two sectors, particularly the huge flood control programme being undertaken in the water sector and the tremendous expansion envisaged in the power sector, the single authority is likely to become unweildy. Moreover, the management of power for efficient and dependable service calls for different management concept than in the case of water development. Serious consideration, therefore, should be given to bifurcate Power wing from WAPDA in order to set up an autonomous Power Corporation in the province. Without this institutional change, as well as modernisation and streamlining of methods and procedures, revamping of personnel policies, intensive training of personnel and in short, operation on purely commercial lines, the improvement in the quality of service being sought, will not be achieved.

36. The Electric Power industry is highly capital intensive and in Pakistan, it is heavily dependent on external financing. Tied nature of financing, unsatisfactory terms of foreign aid as well as various local factors have led to increases in the capital cost of power projects. On the other hand as the growth of power demand in the province has been slower than anticipated, the revenue earnings are not enough to service the burden to debt liabilities. During the Third Plan deductions were made from allocations in the development programme to service debt liabilities. This is an unsatisfactory state of affairs and is contrary to the universal practice which is to ensure that public utilities must earn enough cash returns to at least service past debts. A careful review of the situation is being made to scale down the capital cost of aided projects and the future programme of work during the Fourth Plan has been so restricted that given favourable conditions WAPDA or the proposed autonomous Power Corporation is able to carry the burden of debt servicing out of its own revenue earnings by the Fifth Plan period. For the purpose of Fourth Plan, however, the debt burden estimated at Rs. 700 million for the period 1970—75 has been included in the Plan allocation for the Power Sector of the province.

37. Rural electrification has many characteristics of a social service. In East Pakistan where the bulk of the population lives in rural areas, rural electrification is a matter of welfare which would create a psychological feeling of uplift to the people of the province and above all result in improving the efficiency of the rural economy. Since rural electrification is not a paying commercial proposition

WAPDA or the proposed autonomous Power Corporation which will operate on commercial lines cannot undertake this work on a large scale except to a very limited extent in conjunction with the proposed tubewell electrification programme. Rural electrification in the true sense will have to be undertaken as part of integrated rural development on the basis of cooperatives and credit facilities on the same lines as that of the Comilla , Kotwali pilot scheme but on much larger scale in order to bring about the revolutionary changes, necessary for the uplift of the rural areas.

38. The power development programme has suffered significantly in the past due to shortage of adequate trained personnel. With the advent of major generating stations and transmission lines the need for trained personnel will increase during the Fourth Plan. A vigorous programme of training, is therefore, necessary for the successful operation of the power facilities and for maintaining dependable and satisfactory power supply. Accordingly, separate allocation has been made for the first time in the plan for the post-entry training of engineers and scientists.

Programme

39. The programme provides for the speedy completion of the following on-going generation schemes :—

1. Khulna .. .. 60 MW in 1970-71
2. Saidpur .. .. 11.2 MW in 1970-71
3. Ghorasal Unit 1 .. .. .. 55 MW in 1970-71
4. Ghorasal Unit 2 .. .. .. 55 MW in 1971-72
5. Chittagong .. .. 60 MW in 1972-73
6. Karnafuli hydroelectric Unit No. 3 .. 50 MW in 1972-73

40. Besides a central generating station comprising 4 x 15 MW gas turbine units is also provided in the Plan for installation in North Bengal to cater for the projected industrial development of the region before the commissioning of the 200 MW Nuclear Power station scheduled to be in operation by 1974-75. The following table summarises the different sources of generation which are included in the programme :—

EAST PAKISTAN

Installed Capacity by sources of generation

	1965	Target 1970	Achievement 1970	Target 1975
Public Utilities :				
Hydel	80.0	126.0	80.0	130.0
Steam (*plus* Gas turbines) ..	61.0	525.0	371.0	661.0
Diesel	59.0	59.0	99.0	90.0
Nuclear	—	70.0	—	200.0
Sub-total ..	200.0	780.0	550.0	1,081.0
Industrial Establishments ..	100.0	50.0	120.0	100.0
Total ..	300.0	830.0	670.0	1,181.0

41. Inspite of the addition of the Saidpur diesel station (11.2 MW), the total diesel capacity has been reduced in order to provide for the retirement of about 20 MW obsolete and small diesel units installed in 1954-55. The aggregate installed capacity in the province by public utilities will be 1,081 MW as against the estimated peak demand of 765 MW. The excess generating capacity is considered sufficient to meet the power demand during the normal and emergency shut-down of the 200 MW nuclear power plant and takes into account the maintenance reserve for the annual withdrawal and scheduled maintenance and overhaul of generating units as well as spinnning reserve to compensate for short irregular variations in load and to maintain nominal frequency in the system.

42. The total allocation for generation in the Plan stands at Rs. 284.59 million (13% of the total allocation) including liabilities of Rs. 30.40 million on account of the completed projects, but excluding the allocation of Rs. 350 million for the nuclear station provided separately under the central programme.

43. Greater emphasis has been placed in the Plan on transmission subsector in order to provide adequate interconnection of power stations and to reach all major load centres by high voltage transmission lines from central generating stations. Provision has been made for speedy completion of eight important transmission lines which have spilled over from Third Plan. These include Goalpara-Mangla-Barisal 132 KV, Ishurdi-Saidpur 132 KV, Ashuganj-Mymensingh-Jamalpur 132 KV Transmission lines, and 132 KV loops around Dacca and Chittagong. The existing and proposed loads in North Bengal districts will be served by Ishurdi-Saidpur 132 K V line under construction. Provision has also been made for the new scheme to string a second circuit on this route in the later part of the Plan period.

44. The most important transmission line which has spilled over from the Third Plan is the Interconnector between the two grids on the East and West of the river Brahmaputra. On account of the enormity of the physical work involved the Interconnector is now estimated to cost Rs. 180.00 million. The Interconnector initially is meant for providing high plant factors to the nuclear station in the West and subsequently for transmitting bulk power form low cost energy (natural gas) area in the East to the Western region which is at present dependent on costly fuel oil. Full provision has been made in the plan for the Interconnector, in order to ensure its completion before the commissioning of the nuclear station. The allocation for transmission subsector has been fixed at Rs. 410.16 million—19% of the total allocation.

45. Highest priority has been given in the Plan to the Secondary transmission and distribution programme by an allocation of more than 50% of the total outlay. In order to improve the level of rehability alternative supply arrangements have been provided beside renovation of existing distribution mains. Moreover, new areas will be opened for electrification so that electricity is made available to as large an area as practicable during the plan period. Comprehensive distribution schemes have been drawn up and included in the programme for the greater Dacca and greater Chittagong areas. . Provision has also been made to supply power to irrigation projects of FP WAPDA and the Agricultural Development Corporation. It is estimated that additional 8200 miles of transmission and distribution lines including 2575 miles of 33 KV and 400 volt lines which have spilled over from third plan and 2000 miles of distribution lines for irrigation projects will be erected during the Fourth Plan.

46. The number of consumers is expected to more than double from 220,000 to 500,000. The allocation to the distribution programme stands at Rs. 1,163.63 million which constitutes 54.5% of the total allocation.

47. The training of engineers and technicians, modernisation of electricity operation, improvement of handling and storage facilities are some of the miscellaneous works which have been provided separately in the plan with an allocation of Rs. 84.19 million for on-going and Rs. 205.68 million for new schemes. The total allocation to Power in the province accordingly stands at Rs. 2848.30 million including debt service liabilities of Rs. 700 million.

48. The physical and financial targets of the programme are presented in Annexures.

Centre's Programmes

49. *Atomic Energy.*—The construction of the nuclear power station with an installed capacity of 200 MW at Rooppur in East Pakistan will figure prominently in the Central programme for Atomic Energy Development during the Fourth Plan. The estimated cost of Rs. 350 million for the Rooppur Station has been provided fully besides the construction liabilities (Rs. 40 million) which will spill over from the Third Plan on account of the 132 MW Karachi nuclear power station scheduled for commissioning in late 1970. In addition it is proposed to initiate work on the establishment of a fuel reprocessing plant and to determine the feasibility of a dual-purpose nuclear reactor on the Makran Coast. The financial requirement of the Atomic Energy Development programme is Rs. 720 million which has been reduced on account of the resource constraints in the public sector for the Central Programmes to Rs. 500 million—Rs. 400 million in East Pakistan and Rs. 100 million in West Pakistan.

Karachi Electric Supply

50. The development of the Karachi Electric Supply will continue to be treated in the private sector. The requirement of a 200 MW additional generating capacity for the Karachi-Hyderabad pooled system discussed in the West Pakistan programme has been provided in Karachi Electric Supply Corporation's programme for the Fourth Plan. In addition, provision has been made for the augmentation of distribution network to match the generating facilities. The allocation in the private sector to Karachi electric supply stands at Rs. 462 million—Rs. 174 million for Generation, Rs. 69 million for Transmission and Rs. 219 million for distribution. The total foreign exchange component of the programme is estimated to be Rs. 190 million.

Annexure I

FOURTH PLAN
BENCH MARKS AND PHYSICAL TARGETS
POWER SECTOR

Item	Unit	Benchmark 1969-70			Targets 1974-75		
		E. Pak.	W. Pak.	Pak.	E. Pak.	W. Pak.	Pak.
Installed capacity ..	MW	670	1,923	2,593	1,181	3,150	4,331
Total Generation ..	mKWH	1,300	6,700	8,000	3,750	13,100	16,850
Per capita Gen.	KWH	18	112	61	45	192	112
Transmission and distribution	Miles	6,300	38,000	44,300	14,500	70,000	84,500
No. of consumers ..	No.	0.22	1.48	1.70	0.50	2.23	2.73
Villages electrified ..	No.	250	2,500	2,750	400*	3,500	3,900

*Does not include villages to be electrified under the integrated rural development works.

Annexure II

WEST PAKISTAN POWER

Financial targets and achievements—1965—75

(In million rupees)

Actuals 1965—68	Revised estimate 1968-69	A.D.P. 1969-70	Estimated expenditure 1965—70	Third Plan target	Percentage implementation	Fourth Plan allocation
722.833	272.048	396.939	1,391.820	1,625.200	86	2500.0

Annexure III

EAST PAKISTAN POWER

Financial Targets and Achievements—1965—75

(In million Rupees)

Actuals 1965—68	Revised estimate 1968-69	A.D.P. 1969-70	Estimated expenditure 1965—70	Third Plan Target	Percentage Implementation	Fourth Plan Allocation
696.88	518.03	495.0	1,709.91	1,550.0	110	2,840.30

CHAPTER 23

TRANSPORT AND COMMUNICATIONS

Introduction

An inadequate transport system inherited at the time of Independence, not geared to the new needs of an independent country and burdened with heavy arrears of maintenance and replacement has been a major drag on the economic development of Pakistan. Because of the paucity of available resources the high costs of reconstruction and expansion could only be borne over a relatively long period of time. Despite heavy investments in transport and communications, which in recent years have been one-fifth of all public investment outlays, the growth of the economy still remains handicapped by limitations in the transport and communications system.

2. The pervasive importance of the transport and communications system to the activities, in particular of agriculture and industry, has repeatedly been emphasized in previous years by crisis and difficulties in the transport of inputs critical to the economy of both provinces. Inadequate port facilities and land transport connections to the ports delay ships in port, raise the cost of imports, slow down the distribution of raw materials, as well as finished products of industry, and restrict the timely supply of seeds and fertilizer to the farmer and the farmer's produce to the market.

3. As the economy becomes more complex and interlinked, the shifting patterns of passenger and freight traffic make it even more necessary to consider very carefully the extent, location and nature of future transport investments. Since investment resources are scarce and have important alternative uses it is imperative that transport investments and related policies be adopted with utmost economy in view. Improvements in efficiency should be sought before undertaking new investments and a coordinated development should be attempted avoiding duplication.

4. The investments and physical programmes planned for the Fourth Plan period and discussed in the following pages are directed at eliminating the more severe transport bottlenecks of the recent years and are linked to specific new transport demands which are likely to be generated by programmes in other sectors. Thus, in West Pakistan for instance, a major expansion in road and vehicle capacity is foreseen in order to cater to the transport needs of industrial production expanding at a rate of 10 percent per annum and an anticipated growth in agriculture of 5 per cent per annum (with a much larger increase in marketable surpluses). While a large proportion of new traffic will be carried by road, provision must be made in the railway programme to carry the foodgrain exports which are likely to emerge on the success of the agricultural programmes. There will be a heavy demand for new port capacity, for which adequate and timely provision has to be made if programmes in other sectors are not to be impeded. Similarly, in East Pakistan high rates of growth are foreseen for both agriculture and industry of the order of 6.5 per cent and 13.4 per cent per annum respectively. This will involve substantial all round expansion in the capacity of all modes of transport. Interwing communications, particularly by sea, have been obstructed by a number of difficulties and are excessively costly in some cases. Large increases in traffic by sea and air are foreseen in the Fourth Plan period. There is a pressing need to provide better incentives for East-West sea transport. In view of these circumstances, the policies, rates and conditions which affect interwing tarnsport must be analyzed and drastically improved on an urgent basis.

5. Comprehensive transport surveys of both wings are currently underway. These surveys, will make careful traffic forecasts for each transport mode, assess the long term requirements of each sub-sector, review transport policies and operations and make recommendations about an optimum investment programme keeping in view also the possible long term requirements of each sub-sector. These surveys will also help in preparing a coordinated land use transportation plan for the country based on the requirements of its economy, other physical developments and on the comparative efficiency and economies of each mode of transport.

6. The Fourth Plan will make use of the findings of these surveys as they become available. The survey in West Pakistan has made some progress for its preliminary findings to be considered in the preparation of the Plan. For East Pakistan, the recommendations of the advisory Panels may be adopted tentatively and the programmes reviewed later in the light of the results obtained from the transport surveys.

7. While policy guidance the surveys are expected to provide is not available, steps should be taken to ensure that various transport agencies apply common investment criteria. Towards this end, the Planning Commission has prepared a manual to serve as guide to all agencies in Pakistan who plan investment in the transport sector. Moreover, to ensure that the least costly and the most efficient mode of transport is developed in a particular geographical area, all alternative modes of transport should be considered and their possibilities explored and evaluated on a comparative basis.

Review of Transport and Communications Situation in the Third Plan

8. Significant features of the Transport and Communications Sector in the Third Plan were as follows. There was a substantial shortfall in public investment compared with the targets particularly in East Pakistan and Central Government projects and programmes, as can be seen from the Table below.

Performance during the Third Plan

(Rs. million

	Target	Expenditure	Percentage Implementation
East Pakistan	2,250	1,157	51
West Pakistan	2,350	1,750	74
Centre	2,110	1,405	66
Total	6,711	4,312	64

In the semi-public and private sector an investment of Rs. 3,900 million was targeted. About Rs. 1,150 million was invested by semi-public agencies (the Port Trusts of Karachi and Chittagong, PIA, West Pakistan RTC, NSC, TVC) against a provision of Rs. 1,488 million or 77 percent. Firm data about other private investment is not yet available, but it may amount to about 60 per cent of the allocation in the Plan except IWT sub-sector in which utilisation was only 10% of the allocation.

9. The main reason for the shortfall in investment was in all cases a shortfall in foreign exchange resources, the requirements of which are relatively high in this sector. The larger shortfall in East Pakistan is accounted for by the additional factors of difficulties in land acquisition and delays in the supply of essential materials. Taking into account the rise in prices over the Plan period, shortfalls in the achievement of physical targets in some sub-sectors may be somewhat higher than the financial shortfalls.

10. The pattern of traffic turned out to be different from what was estimated. In West Pakistan railway traffic was expected to reach 6.6 billion ton-miles and 7.4 billion passenger-miles by 1970. But it is likely to reach only 5.0 billion ton miles and 6.5 billion passenger-miles. It has remained more or less static over the Plan period. Road traffic, on the other hand, will have increased by 60 to 90 per cent. Road transport has become an important transport mode in West Pakistan accounting in 1967/68 for about half of total passenger miles and nearly half of total freight ton-miles. There were changes in the pattern of traffic in East Pakistan also, largely as a consequence of the 1965 war with India and due to the growth of road transport. Air Traffic in West Pakistan was estimated at 25.421 million ton-miles and 233.970 million passenger-miles by 1970, and these figures are likely to be attained. The figures of Air Traffic in East Pakistan were 3.905 million ton-miles and 37.445 million passenger-miles by 1970, which also are likely to be attained.

STRATEGY AND PRIORITIES OF FOURTH PLAN

11. In the Fourth Plan, the strategies, priorities and hence the allocations to different modes of transport have been determined on the basis of such factors as the minimum cost of transport, the geographical terrain of the area to be served, the locations of producing, exporting and consuming centres, as well as the nature of the traffic to be handled.

Traffic :

12. Traffic is estimated to grow considerably during the Plan period, if the targets for production and distribution can be fulfilled ; very likely to the extent indicated in the table below.

Mode of Transport	Projected traffic 1975 (billion ton miles)	Total percentage of growth over 5 years
Transport :		
West Pakistan :		
Rail	6.5	15
Road	7.6	73
East Pakistan :		
Rail	1.4	30
Road	1.8	100
Mechanized IWT	1.0	150
All Pakistan :		
Rail	7.9	20
Road	9.4	77
All modes	18.3	47
Communications :		
West Pakistan :		
Air	100 (million ton-miles)	118.4
East Pakistan :		
Air	16 (million ton-miles)	122.2
All Pakistan :		
Air (Total PIA)	528 (million ton-miles)	113.8

13. Satisfactory disposal of the increased and continuing load of traffic will necessitate sizeable investments not only for the rehabilitation and improvement of the existing system and facilities but also for large expansion in its capacities.

Interwing Communications

14. The physical separation of the two wings of Pakistan by a thousand old miles over land and many thousand miles over-sea creates problems for all kinds of transport and communications and hampers the smooth flow of trade. There are, for example, large differences in the prices for the same commodities, due to interwing transport costs. The likely emergence of large surpluses of foodgrains and cement in West Pakistan and of fruit and fish in East Pakistan will create new and increased demands for interwing transport.

As it is there is insufficient sea transport even for the existing trade between the two wings.

15. Despite policies aimed at encouraging transport between the East and West Wing, domestic ship-owners still find it more attractive to engage in international rather than inter-wing trade and insufficient shipping is made available for interwing trade. Even so there is unfilled capacity of ships travelling from East to West. Charging lower rates for East-West than for West-East transport may improve the situation. But a thorough-going review of the rates, incentives and regulations governing interwing sea transport is urgently required.

16. In furture, for both coastal and international trade, Pakistani ships should have enough refrigerated and special space for commodities such as fruits, vegetable, oil cake, dried fish, and leather. If feasible, efforts may be made to introduce direct shipping routes between Karachi and the major inland ports of East Pakistan.

17. For encouraging movement of passengers on the interwing air routes the existing subsidy to PIA should continue. As a direct route between Islamabad and Dacca has now been opened the fares for this domestic sector should be equalised with those of Karachi-Dacca Frequent air freight services should be introduced between the two wings. The airports meant for interwing operations should be strengthened and made capable of handling larger and faster aircraft to be operated by PIA in the coming years. With the coming into operation of jumbo jets and possibly by doing away with some of the in-flight services, it may be possible to reduce the interwing fare even further. In general, an attempt should be made to have a surplus capacity in interwing flights, letting the traffic catch up.

18. The difficulties in the telecommunication field will be largely overcome through a Communication Satellite with the ultimate objective of having direct dialling and TV connection between the two wings. The expansion of Radio Pakistan should aim at an all-time linkage.

Railways

19. Railways play an important role in the inland transport system of the country in each of the two wings and this is the only major carrier wholly in the public sector both in regard to the ' ways ' as well as stock and operations. In other modes of tran port (road tran port and water transport public) interest is confined to the provision of ' ways ' and the stock and operations are almost wholly in the private sector. Railways, therefore deserve special attention.

20. Both the railways have been following a policy of rehabilitaion, improvement and modernization. Although some progress has been made in replacement of overaged and depleted assets, yet the programmes will have to be continued during the Fourth and subsequent plan periods.

21. To avoid deficits, both the railways have resorted to increasing the rates and fares in recent years. This is being done at a time when the railways are face to face with increasing competition from other growing modes of transport. It obviously involves a risk of further loss of market. Railways will do well to study in detail the emerging pattern of inter model distribution of traffic. Railway rates could perhaps be raised where the railways are still the major mode of transport and are likely to continue in this position in the near future. In other cases rates may have to be lowered or other adequate incentives provided, if neccessary, to hold on to such traffic as are obviously more economic to move by rail such as distance bulk haulage. Overall cost reduction should be the major objective of long efforts to improve the rate of return on investment.

22. The Pakistan Western Railways has undertaken a pilot project for the electrification of the Lahore-Khanewal section for the sake of utilization of available hydro-electric energy and thereby saving foreign exchange required for the alternative of dieselization. However, much will depend on the skill with which the project is managed and the results will be watched with interest. Studies for the electrification of other important sections of PWR (such as Karachi-Kotri and LahoreRawalpindi) should be conducted in the l~ht of experience gained.

23. An effici nt and satisfactory railways system can help the country avoid, postpone or stagger the heavy imminent investments in other transport modes till such time as adequete traffic develops for expanding the transport system as a whole. Perhaps the emphasis should be on a more competitive and enterprising attitude, on a more intensive utilization of available capacity and on a readjustments of both the investment programme and the recurring expenses to increase efficiency.

WEST PAKISTAN

24. Throughout the world, the motor vehicle has brought a transport revolution. The same thing has been happening in Pakistan in recent years. For many types of goods, road transport sharply reduced distribution costs and provided quicker, more frequent and more reliable service, with lower loss and damage in transit. It has also connected many villages for the first time with the rest of the country. The achievement of self-sufficiency in food and the increase in domestic fertilizer production will lead to more short and medium distance traffic, thus greatly expanding the role of road transport. In West Pakistan, the average distances for passenger traffic are quite short, so that road transport should play an increasing role. The Fourth Plan, therefore, places major emphasis on expanding and improving the road network and on assuring the ready availability of commercial vehicles. Feeder roads obviously need greater attention particularly those leading to existing rail heads and trunk roads. Development of an integrated road network of a high standard, which is the ultimate objective, would spill-over into the Fifth Plan but the beginning made in the Third Plan has to be pursued vigorously in the Fourth Plan.

25. As the largest public utility undertaking of the Government, the Pakistan Western Railway will continue to play its role as a major carrier of goods and passengers, especially for bulk cargo long haul and mass transportation. There is a heavy backlog of replacements and renewals of the old and worn out assets of the PWR and there is need for modernization and improvement of techniques and equipment so as to increase productivity and cut down cests. Dieselization and electrifiication (based on the experience of Lahore-Khanewal project) should be continued and the questions of containerization needs careful consideration.

26. West Pakistan has only one ocean port through which all imports and exports must be handled. Karachi Port is congested and traffic has been increasing

rapidly beyond its designed capacity ; before 1980 the Port will have to handle twice as much traffic as it is handling today (about 9.0 million tons a year). Studies are currently underway on the relative merits of expanding Karachi Port or constructing a new port at Sonmiani or at some other site, but a large expansion of capacity will be required in any case. The studies for Sonmiani should be pursued with much greater vigour than has been done so far, for increasing channel capacity, as early as possible.

27. The Plan must also make adequate provision to meet the dynamic growth of aviation, including interwing transport, and to assure that coastal trade and an increasing share of Pakistan's foreign trade is carried by Pakistani ships. As for communications, the major emphasis must be on improving interwing communications by satellite and on making up the backolg in the supply of telephones together with an improved long distance network within each Province. The broadcasting services will also need to be strengthened.

EAST PAKISTAN

28. Inadequate transport is a serious bottleneck in the growth of East Pakistan's economy. This is reflected, for example, in large differences in prices prevailing in different parts of the Province and in overloaded passenger coaches and buses. Better transport will widen markets, reduce costs and prices and assure the more timely availability of supplies. Traffic can be expected to increase at a substantially greater rate than the growth of Provincial economy.

29. The strategy for East Pakistan will be to strive for a major increase in capacity for all modes of transport based on the principle of geographical specialisation of transportation. In areas which are more riverine such as the southern part of the province emphasis will be on the development of Inland Water Transport. Whereas in the northern and eastern parts e emphasis will be on the development of Roads and Railways. Certain areas of the province will be served by mixed transport *i.e.* initially by IWT or Railways and then by Roads and IWT.

30. Because of the peculiar geographical terrain the province, the railway has reached the limit of economic expansion in its route mileage. The major programme for PER would, therefore, be the replacement of dilapidated and worn out tracks, bridges, and rolling stocks ; modernization and improvement of signalling system, terminal and storage facilities and operation (both administrative & technical) so that the existing facilities can be utilized more efficiently to give faster turn-round of wagons, increase in the speed of goods, trains and faster clearence of goods from the stations and godowns etc.

31. For roads, which are in a very bad shape, the emphasis must be on completing the basic road network and the many projects which have been started so that their full benefits can be obtained, and on feeder roads, connecting producting areas with the trunk network of roads, rail and water-transport, so that a " truck " can be easily taken to the village. Particular attention should be given to improvement of facilities at unbridged river crossings and to the classification of roads so that these can be built in accordance with well defined specifications and design criteria to take the pressure of heavy traffic. For ease of communication between the different parts of the province which lie separated by the mighty rivers, Brahmaputra and Ganges, a preliminary feasibility study for bridging the Brahmaputra river has been completed recently. This matter needs further attention and improvements in this regard obviously deserve high priority. Whenever feasible, all existing railway bridges should be decked for use by road transport. The improvement of the organisational set up of the Highway Department should continue to receive earnest Government attention.

32. The development of IWT should get more emphasis in the Fourth Plan because of its cost advantages as regards development and operation. As a result of the added emphasis, the Mongla port which is crucial for the growth of IWT should be developed on a priority basis and more and more imported bulk cargo should be diverted from Chittagong to Mongla. Other IWT programmes of improvement should include (a) conservancy with regular maintenance, (b) dredging of existing channels and excavation of a new channel between Mongla and Ghasiakhali, (c) provision for increased number of discharge points at the major inland ports including efficient loading and unloading facilities, (d) creation of new discharge points, and (e) mechanisation of country boats and introduction of more modern fast water craft (like Hydrofoils, Hovermarines etc.). In addition, comprehensive feasibility studies for development of waterways, inland ports and a "pilot project" for building of boats (to be mechanised) with cement-concrete and fibre-glass, should be undertaken.

33. The East Pakistan Shipping Corporation should be helped to make up the past deficit by allowing it to undertake some remunerative schemes. The construction of a new port at Mongla with adequate inland and seaward communications and completion of improvements at Chittagong Port will assure adequate port capacity in East Pakistan in the foreseable future.

INVESTMENTS

34. Taking into account the strategy and priorities set out above, the need to implement transport policies outlined later and allowing for an increase of about 19 per cent in public sector allocations to Transport and Communications during the Fourth Plan for Pakistan as a whole, transport and communications expenditure has been distributed as follows :—

(Rs. million)

	Third Plan Expenditure	Fourth Plan Allocation
Transport :		
Railways	1,678	2,235.0
Roads	1,177	2,363.0
Other including block allocation	627	1,685.0
Sub-Total:	3,482	6,283.6
Communications	830	1,622.0
Total	4,312	7,905.6

N.B.—The Third Plan Public Sector allocation was Rs. 6,711 million

35. As the above table indicates, total public investments for 7,950.6 transport and communcations will increase by about 84 per cent compared with the Third Plan expenditure.

36. In the private sector a total investment of about Rs. 5,160 million can be anticipated; the investments by the semi-public agencies (Port Trust, Shipping lines, Road Transport Corporations, Airlines, and Television Corporation) are

expected to increase from Rs. 1,150 million during 1965—70 to Rs. 2,170 million during 1970—75. The number of commercial vehicles (Buses and Trucks) by the end of the Third Plan period stood at 49,700, against which it is proposed to acquire further about 64,500 vehicles (including replacements) during the Fourth Plan period. Invetsment in the private shipping fleet may reach a level of Rs. 440 million, in inland waer transport of Rs. 310 million and in road transport of Rs. 2,240 million. The realisation of these targets is essential in the light of the limited resources available in the public sector. However, this will depend on the libralization of import policies, on the pricing of tranport equipment, on the introduction of a growth oriented bus licencing system and on the eviluo tion of a regular procedure for reviewing the charges and fares in line with changing costs. Further, substantial allocation, possibly through a special institution (such as a water transport industries company and a road transport industries company), will be needed for the modernization of the privately-owned inland water fleet and road transport. Since the paying capacity of the private investors is limited, the equipments and materials they require may have to be provided on a hire-purchase basis in most cases. Some funds may be specially earmarked for the transport sector from he resources of the existing financial institutions (such as IDBP, PICIC, ICP) for the modernisation and growth of the priately owned water and road transport fleets. Alternately a specialized institution for transport financing may be organized.

37. An important problem in planning 1970—75 investments in the public sector arises from the fact that there will be a large throw-forward of schemes already approved but not yet fully executed. The Fourth Plan allocations include Rs. 4,898 million (Rs. 1,340 million in West Pakistan, Rs. 2,125 million in East Pakistan and Rs. 1,433 million in the Centre) as throw-forward from the Third Plan, which is around 62 per cent of the total allocation for the Fourth Plan. The proportion differs from agency to agency, but for some almost the entire Fourth Plan allocation is already committed to on-going schemes. The opportunities for new schemes are thus relatively limited for several of the sub-sectors. It would be desirable, therefore, to review some projects which have already been approved to determine whether others may not have a higher priority and to phase the programmes in such a manner that essential parts are completed in time.

TRANSPORT POLICIES

38. Improved transport policies and operations can make a significant contribution to better transport coordination and minimize the need for new investments. There are twenty-two major areas in which existing policies need to be strengthened or re-oriented :—

(*i*) *Investment Criteria.*—In view of the large transport investments required and the heavy foreign exchange costs frequently involved, a careful economic appraisal of investments is particularly important. In re-cognition of this fact, a number of Government agencies have established staffs specializing in project appraisal. The Planning Commission, for example, has established a Projects Wing both Provincial Governments have created Transport Planning Cells, and the railways and the highway departments have also strengthened their planning activities. Effective transport coordination requires that the various transport agencies apply common investment criteria. Unless this is done, railway investments, for example, might be undertaken where road transport would serve more economically or *vice versa*. These common investment criteria should be applied not only to new investments but also to the maintenance, expansion and continued operation of existing investments.

To assist in the application of such common criteria, the Planning Commission, as already mentioned, has issued a Manual to serve as a guide to all agencies in Pakistan responsible for planning and for investments in the transportation sector.

(*ii*) *Rates, Fares and other Charges.*—The efficient distribution of traffic among the various transport modes requires that the rates and fares cover the costs (inclusive of a reasonable margin of profit) for the principal categories of traffic handled on specific routes. Only in this way will the users of transport services be able to make intelligent decisions on the alternatives available to them and reconcile their own interest with the interest of the country as a whole.

Tariffs of the railways, have traditionally been based on the value of the particular commodities carried. In recognition of the fact that this may no longer be appropriate in some cases, particularly when confronted with competition, the railways, in both provinces will have to re-examine their rate structures *de-novo* and in detail and bring them up-to-date.

The efficient distribution of tariffs among the transport modes also requires that the users of highways, ports and other common facilities provided by the government pay the government for the cost of these facilities. In this connection the charges connected with the use of roads will need carefull re-examination so as to reflect full costs of road construction, maintenance and renovation.

The need to relate tariffs to costs does not mean that the transport system should not be used in appropriate cases for social, political or strategic objective which deserve government support.

(*iii*) *Equipment Industries.*—To reduce our dependence on imported transport equipment which is obtained at the cost of our meagre foreign exchange, some immediate action should be taken to set up transport equipment industries locally to manufacture bus and truck chassis, marine engines, auto-rickshaw engines, spare part and accessories and some of the railway equipment and materials.

In East Pakistan, the Industrial Development Corporation has some experience in manufacturing some of these equipments so it may be entrusted with the responsibility of manufacturing as much more as feasible. Some private investors may also be encouraged to set up part of these industries. A portion of the local products may even be sold to small investors on hire-purchase basis to generate sufficient demand.

To make the local production economical, it will be necessary to aim for standardization of makes as quickly as possible. Only 4 to 5 makes should be manufactured locally. Detailed feasibility may have to be undertaken for this purpose. Such imports as are necesary should be made from countries that have standard similar to our own.

The development of a more sophisticated equipment industry (improved type of railway rolling stock : suitable aircraft ; fast moving water craft particularly for express cargo, automobiles, colour TV sets, telecommunication equipment etc.) could perhaps be initiated in partnership with reliable foreign collaborators on a foreign exchange self-financing basis. This needs further study particularly for improving the balance of payments effect of this sector in the future.

As regards manufacture of commercial vehicles, efforts should be made and suitable policies evolved to encourage manufacture of as many vehicles as possible in the country using the local materials to the maximum extent. Fiscal policies should be so designed as to encourage local manufacture rather than import or assembling of vehicles.

(*iv*) *Private Road Transpart.*—The role of the private sector in road transport deserves careful review and encouragement : this relates particularly to the desirability of having a growth oriented permit system for buses.

The elimination of restrictive economic regualtion over trucking in 1961 in West Pakistan substantially improved the efficiency of this industry. However, the economic restrictions on new or expanded bus services especially for inter city services, interfered with effective disposal of available traffic and the optimum utilization of buses and has since been substantially liberalized.

In this respect, the Government of West Pakistan, has already adopted some of the measures outlined below. For a growth-oriented inter-urban bus system, it has been decided to undertake reconstitution of the Transport Authorities into all official bodies ; the classification of routes according to density of traffic ; fully automatic issue of permits for the less lucrative routes (including an incentive by way of tax exemption for an initial period of six months of operation of an additional bus on routes having less then five services a day) ; almost automatic issue of permits on other routes (with disincentives to excessive concentration on the more lucrative routes having more than 300 services a day in both directions, such as higher permit fees combined with age restriction on buses and regulated stage lengths and schedules etc.) ; and provision for a systematic semi-judicial review of the route pattern and of rates and fares in relation to costs. The issuance of permits will, of course, be subject to meeting legal requirements concerning :—

(*a*) the applicant being a recongized and/or a potential operator (individually, or in " Bhai-Bandi " or, and preferably, as a public company specializing as a business bus carrier) ;

(*b*) the deposit of a prescribed amount of earnest money ;

(*c*) insurance (including insurance of passengers) ;

(*d*) at a later stage, when there is an adequate enforcement machinery, the possession of a fitness certificate for the buses ; and

(*e*) confiscation of permit and forfeiture of earnest money in case permit is transffered directly or indirectly to or traded in with a second party, except when duly authorized by the issuing authority.

In East Pakistan it may be desirable to provide special incentives to encourage private investment in mechanization of country craft, use of improved types of inland water transport and related facilities as well as possible replacement of pedal rickshaws, at least in congested areas.

For urban bus services the situation is more complicated since urban transport must be closely related to urban planning as a whole. The chapter on Physical Planning and Housing deals with this problem in greater detail.

(v) *Operations.*—Major operational improvements are clearly possible for all modes of transport. The utilization of the Railway's freight wagons could be increased substantially, thus lowering the requirements for new wagons. The maintenance of roads also deserves greater attention. Better maintenance will not only postpones the time when roads have to be reconstructed but will also reduce the operating costs of vehicles. On the other hand regular renovation must be systematically planned. Similarly, the number of accidents on the roads is very high, involving heavy loss of life and property. Greater safety must be given a high priority in the road transport sector. In this respect, the existing rules and highway code should be properly enforced. In addition, the issuing of driving licence should be on the basis of more rigorous tests (both practical and oral) organised by a really competant authority. Operational improvements are also possible in the utilization of existing port capacity, through provision of adequate warehousing and remodelling of railway yards in port areas, transit storage capacity including transit silos, ready availability of railway wagons, trucks etc., provision of adequate number of cranes and other craft and equipment for loading and unloading, quick provision of lighterage jetties in East Pakistan and bulk handling as far as practicable particularly for foodgrains, fertilizers etc.

(vi) *Organizational Improvements.*—The pursuit of these policies will require organizational improvements to assure more effective coordination of the various transport modes, especially railways and roads in West Pakistan and railways, roads and IWT in East Pakistan. One central logistic office should be organisd one in each wing to work out proper scheduling of the arrival/departure of the ocean going ships at the seaport through the Directorate General of Ports and Shipping so that the bunching of ships can be avoided and smooth clearance and distribution of the export-import cargo can be made by the co-ordinated use of the existing transport capacities. At the same time, efficient management of the operating agencies require that they be given adquate authority over day-to-day operations and that the Governments authority be limited to well-defined areas such as the approval of the ivestment programme and of major projects the grant of Government subsidies and the appointment of the top management.

(vii) *Coordinated Land Use and Transportation Plan.*—The ultimate objective of the Transport Surveys in both East and West Pakistan will be the preparation of co-ordinated land use and transportation plans for the country. The Transport sector allocation will ultimately be based on this coordinated-transport plan and not on the individual Master Plans produced by each sub-sector (*i.e.*, Highways Department, Railways, Water-ways etc.). This coordinated transport Plan will in fact be a consolidated end product of technical, economical, strategic, physical, social and political analysis of each individual Master Plan produced by each transport sub-sector.

(viii) *Traffic and Transport Plan for Major Urban Areas.*—By the end of the Fourth Plan, period most of our big urban areas should each have a traffic and transport plan. The preparation of such a plan should be the responsibility of a well organised body in each of the major urban areas, who should have qualified persons to do this. The Traffic Police Department who are responsible for enforcement and implementation of the Plan should also be kept in the picture when finalising the Plan.

(*ix*) *Central Road Fund (C.R.F.).*—The requirements of funds for roads to be financed from the Central Road Fund are increasing rapidly in both the provinces. A study may be undertaken to find out ways and means of increasing the proceeds and receipts of the Central Road Fund. The present criteria for the distribution of the C.R.F. among provinces, as well as criteria used for selection of the road schemes for financing from C.R.F. as well as the other procedures and practices which were framed a long time back, may have to be reviewed and brought up-to-date.

(*x*) *National Transport Research Centre.*—Transport and communication systems have been changing rapidly in the past decade. Continuous research is essential if we are not to end up using methods which are crude and have become obsolete. To prevent this happening the transport planning cells in the provinces are being strengthened. For proper co-ordination with the Provincial and outside agencies and for the sake of a national perspective , a " National Transport Reserach Centre " Should be set up to undertake the much needed technical and economical reaserach at the national level.

(*xi*) *Plan Implementation.*—During the Third Plan period the Plan discipline was not followed in the Transport and Communications sector. There were large shortfalls in this sector particularly in East Pakistan. It is important that during the Fourth Plan period the Plan allocations and programmes, when finalised, should be adequately reflected in the annual plans and appropriate policies should be pursued to implement these programmes fully.

(*xii*) *Maintenance of roads.*—Normal and routine maintenance should receive the greatest attention and periodic renovation should be systematically planned to keep the road in good condition and thus to protect the investment and provide proper service to the highway users.

Funds required for renovation and upgrading should come from the allocation made to the road sub-sector during the Plan period. For regular and routine maintenance of roads a " Road Maintenance Fund " could be enacted. This question of financing the maintenance requirements should be examined by the Central Government in consultation with the Provinces.

(*xiii*) *Treatment of Road Transport and Inland Water Transport as an industry.*—The private sector road transport and water transport should be included in the industrial schedule so that IDBP and PICIC can accommodate the financial requirements of the private transport operators.

(*xiv*) *Diesel oil tax.*—On the analogy of contribution of a part of gasoline tax to the Central Road Fund for special purposes in the road sub-sector, the railways, inland water transport and road sub-sectors have suggested that some contribution from the tax on diesel oil consumed in these sub-sectors should be reserved for use in these sub-sectors for special purposes. Government should consider the institution of such funds.

(*xv*) *Road construction industry.* The road construction industry should be included in the industrial schedule and steps should be taken to strengthen it in the country by allowing credit facilities, encouraging formation of consulting firms having their own engineering and technical personnel and by providing equipments and machineries in contract work.

(*xvi*) *Statistics.*—Statistics on roads, road transport in both East and West Pakistan and inland water transport in East Pakistan are not available adequately. Some system of maintaining such statistics should be evolved without any further delay. The Transport Planning Cells in the Planning Departments should be provided funds for this purpose.

(*xvii*) *Classification of roads.*—It will be worthwhile for the Provincial Governments to attempt a clear classification of roads into arterial, major, secondary and minor roads and then assign responsibility.

(*xviii*) *Specifications for rural roads.*—Minimum specifications for rural roads should be laid down by Highways Departments in consultation with Basic Democracies and Local Self Government Departments and the rural roads should be made according to those specifications. The Highways Departments should have authority to inspect the roads during construction. Fund should be allocated to the local bodies for the purpose on the strict condition that roads would be made according to specifications. Priority should be given to such roads as provide connection from villages to markets.

(*xix*) *Co-ordination of road specifications.*—An inter-Provincial Board should be set up representing the new provinces in West Pakistan for securing co-ordination of road specifications as well as for co-operation in the field of implementation of the inter-provincial roads programme.

(*xx*) *Ribbon development.*—Ribbon development should not be allowed, so that sufficient land is available on both sides for further widening of the road. The law in this connection must be rigidly enforced.

(*xxi*) *Free movement of buses and trucks.*—Free movement of buses and trucks should be allowed throughout the new provinces in West Pakistan. An inter-provincial Board should be set up comprising of Chairmen of the Provincial Transport Authorities of the new provinces, to secure coordination of policies and co-operation in the matter of inter-provincial movement of motor vehicles.

(*xxii*) *Supply of material and land acquisition.*—supply and procurement policy of road construction materials needs to be simplified so as to ensure regularity in the delivery of such materials. Similarly, the land aquisition procedure should be rationalised to speed up construction work.

PROGRAMMES

WEST PAKISTAN

39. In line with the strategy outlined above, the road programme in West Pakistan will be considerably accelerated, while new investment in railways will not decline. Out of the total allocation of Rs. 2200 milion. about Rs. 1,340 million is accounted for by throw forward of the Third Plan, so that the scope for new projects is limited, particularly in the case of the Railway.

(Rs. million)

	Third Plan (Estimate expenditure)	Fourth Plan Allocation
Pakistan Western Railway	1,150	1,080
Roads	600	1,100
Inland Water Transport	—	10
Research and Study	—	10
Total ..	1,750	2,200

40. *Pakistan Western Railway.*—By the end of the Third Plan period, the Pakistan Western Railway is expected to acquire 26 diesel electric locomotives, 29 electric locmotives, 5,551 wagons, 563 passenger carriages and other coaching vehicles and to complete 605 miles of rail renewals and 739 miles of sleeper renewals (including the throw-forwards of the Second Plan). The respective Plan targets were :—132 diesel electric locomotives, 29 electirc locomotives, 9,232 wagons, 803 passenger carriages and other coaching vehicles, completion of 851 miles of rail renewals and 1,188 miles of sleeper renewals . Other major projects expected to be completed are introduction of electric traction between Lahore and Khanewal, conversion of Hyderabad-Mirpur Khas railway from M.G. to B.G., first phase of Kot Adu-Kashmor railway from Kot Adu to Dera Ghazi Khan and construction of a part of the second phase from D. G. Khan to Rajanpur. During the Third Plan period, an expenditure of Rs. 1,150 million is expected to be incurred by the Pakistan Western Railway against an allocation of Rs. 1,500 million.

41. PWR's traffic has remained more or less static at about 5.0 billion freight ton-miles and about 6.5 billion passenger miles during the Third Plan period. This was due to war with India and interruption and reduction in the flow of foreign aids/loans.

42. During the F6urth Plan period, it is expected that the PWR freight traffic will increase by 3 per cent per annum and passenger traffic by 1.5 per cent per annum.

43. The main objectives of the Pakistan Western Railway in the Fourth Plan will be : replacement and rehabilitation of its overaged and worn-out rolling stock, track, bridges, workshops, plant and machinery, in order to maintain a satisfactory level of efficiency and productivity and standard of public safety. Modernization and imporvement of techniques, practices and equipment, such as, provision of mechanised marshalling yards at Samasata and Pipri (near Karachi), improved signalling and telecommunications, electrification of Lahore-Rawalpindi section, augmentation of line capicity, terminal facilities and workshop equipment so as to meet the demand of additional traffic generated during the Fourth Plan period without any addition to its rolling stock . Some emphasis will be laid during the Fourth Plan period on the provision of social services to railway employees and users of rail transport.

44. The PWR Fourth Plan programme covering the above development requirements is estimated to cost Rs. 2,048 million, of which the barest minimum allocation required for expenditure during the Fourth Plan period is Rs. 1,160 million, (including the throw-forwards of on-going and committed schemes of the Third Plan).

45. The programme privides for the completion of ongoing schemes of Kashmore-D. G. Khan railway, Amruka-Wasewawala railway, Islamabad spur and for the second phase of Diesel Workshop of Rawalpindi as well as carriage factory at Rawalpindi. The programme also includes replacement requirement of 106 DE locomotives, 192 locally manufactured passenger carriages, 228 OCV's and 2,470 wagons. It also provides for 1,065 miles of rail renewals and 1223 miles of sleeper renewals. Provision has been made for laying a new railway line between Lyallpur and Okara.

46. *Roads.*—In West Pakistan, 1,310 miles of raods were expected to be completed against the Plan target of 1,750 miles of roads. Major projects completed during the Plan period were construction of three new bridges on rivers Ravi, Jhelum and Sultlej, of a bridge on river Indus in Thatta-Sujawal section and of the Karachi-Hyderabad highway. A separate Highway Department was created

in 1967 thereby imporving the efficiency and implementation capacity of the Department. A number of toll facilities were opened to public during the Plan period. The results are encouraging and the new experiment has been spontaneously accepted by the road users. This augers well for the future planning of toll facilities in West Pakistan. During the Plan period an expenditure of Rs. 600 million was expected to be incurred against an allocation of Rs. 850 million.

47. While no satisfactory information is available on the growth of road traffic in West Pakistan, the indirect evidence from the growth of the vehicle fleet, the consumption of diesel fuel and traffic counts indicates that the annual increase has probably been about 10—15 per cent. This would mean that road transport may well have increased by about 60 –90 per cent during the Third Plan. There is every reason to believe that a similar growth will take place in the Fourth Plan.

48. During the Fourth Plan period it is proposed to undertake improvement and reconditioning of existing roads, widening of narrow pavements for increased traffic density and to construct new roads, bridges and toll highways and bridges. Besides, international routes like R.C.D. Highway also demand high priority for construction and completion. Emphasis is also laid on improving the administrative and planning capacity of the construction industry and to equip it for discharging its function satisfactorily.

49. Major emphasis will be placed on the following :

(*a*) The ongoing aided schemes will be completed as quickly as possible.

(*b*) Peshawar (Torkham) to Karachi road will be built to high standard with a 2 lane super highway.

(*c*) Priority will be given to such roads as provide connections from villages to markets.

(*d*) A Master Plan for roads for the priod 1970—85 will be prepared.

50. The total cost of the West Pakistan Roads programme is estimated at Rs. 1,600 million out of which an allocation of Rs. 1,100 million is being made in the Fourth Plan for the construction/imporvement of 3,500 miles of roads and some bridges. It also includes construuction of a new highway over the new barrages linking Churhkana with Rasul to facilitate the movement of fertilzier, basmati rice etc. A provision of Rs. 50 million has been made for completion of the R.C.D. Highway by 1972.

51. *Inland Water Transport.*— A provision of Rs. 10 million has been made for the modernization of ferries and of coastal crafts.

EAST PAKISTAN

52. In line with the priorities outlined above, both railway and road investments will be more than double, with IWTA investments still higher. The Fourth Plan allocation of Rs. 3,000 million includes a throw-forward of Rs. 2,125 million for completion of on-going schemes of the Third Plan, so the scope for new projects is small especially for roads.

(Rs. million)

Sub-sectors	Third Plan (Estimated expenditure)	Fourth Plan (Allocation)
Pakistan Eastern Railway	528	1,075
Roads and Bridges	447	1,258
I.W.T.A.	127	315
E.P.S.C.	15	90
E.P.R.T.C.	40	65
Reserach and Study	—	20
Block allocation	—	177
Total ..	1,157	3,000

53. *Pakistan Eastern Railway.*—PER's traffic growth during the Third Plan was interrupted by loss of traffic with and through India, which had accounted for about one-fifth of its freight traffic. Inspite of this loss, it is expected that goods traffic by 1969-70 will have reached the (1964-65) level of 900 million freight ton miles and the passenger traffic will have increased from 1,922 million to 2,250 million passenger miles. During the Fourth Plan period, it is expected that PER's freight and passenger traffic together will further increase by about 30 per cent.

54. By the end of the Third Plan period the Pakistan Eastern Railway will have acquired 58 diesel electric locomotives, 1,111 wagons, 299 passenger carriages and other coaching vehicles, completed 315 miles rail renewals and 497 miles of sleeper renewals. Other major projects completed were doubling of track in sections between Dacca and Chittagong (Chittagong-Sitakund and Tejgaon-Dacca), construction of new railway line (Kurigram-Chilmari, Ruhea- Pochagarh, Narsinghdi-Madanganj), conversion of Rupsa Bagerhat section from N.G. to B. G, construction of Bholaganj -Chhattak Ropeway and about 10 miles of Faridpur-Barisal railway line project. In total an expenditure of Rs. 528 million, against an allocation of Rs. 915 million was incurred which is 57.7 percent of the allocation.

55. Taking into account the traffic increases and the urgent need to improve the utilization of existing rolling stock by better telecommunication, signaling, marshalling, loading and unloading facilities, greater ferry capacity and the replacement of overage rolling stock and bridges during the Fourth Plan, the PER has indicated a requirement of Rs. 1,470 million of which about Rs. 803 million will be carry-forward from the Third Plan, against which a provision of Rs. 1,075 million is made in the Plan. It should be emphasised that the effective utilisation of such a large increase in investment (from Rs. 528 million in the Third Plan) will require major changes in the organisation, management and operations of the railway.

56. Within these financial allocations the physical programme includes acquisition of 70 D.E. locomotives, 534 passenger carriages and other coaching vehicles, 5,916 wagons, and 300 miles of rail and sleeper renewals. Other major construction schemes, Faridpur-Barisal Railway, doubling of track in sections between Dacca-Chittagong and the new railway line Khulna-Mongla willl also make substantial progress.

57. *Roads.*—During the Third Plan period, in East Pakistan 478 miles of roads were completed against the target of 1,000 miles for which an expenditure of Rs 447 million was incurred against an allocation of Rs 1,020 million. Other major schemes where some progress was made, include the completion of a Floating Bridge over the River Karnaphuli, and preliminary feasibility for a bridge over the river Brahmaputra. Work on foreign aided schemes of Dacca-Aricha road (contsruction of bridges) was started and Tender formalities for certain sections of Dacca-Chittagong highway were completed.

58. No reliable data exist on the growth of road transport in East Pakistan. Indirect evidence from the use of fuel, selected traffic counts and traffic on ferries indicates that traffic will have increased by perhaps 60—75 percent. With the increase in road investments suggested for the Fourth Plan, it is almost cetain that the growth in road traffic will accelerate further, depending on the timely availability of vehicles. The emphasis in the Fourth Plan should be on the following areas :

(*a*) To complete the projects carried over from the Third Plan and the basic road network by linking all the district and sub-divisional towns and all commercial and industrial centres of importance.

(*b*) To upgrade the existing road system in order to enable it to take pressure of heavy traffic.

(*c*) Bridging the road gaps, either by providing road bridges or efficient ferry system.

(*d*) To open up the country-side by providing adequate number of secodary and feeder roads. 'Truck to the Village' would be one of the elements in the policy of road construction.

(*e*) To emphasise geographical specialization of road transportation ; and in this context, to give special consideration to the need for a comprehensive programme for road construction in the North Bengal area.

(*f*) To improve the road system connecting Dacca with Chittagong in the east, Thakurgaon (Dinajpur) and Rajshahi in the north, Jessore and Khulna in the West (with re-alignment where necessary) and to provide double lane with necessary shoulders and buil t to expressways standard.

(*g*) Proper maintenance and up-keep of the existing arterial roads.

(*h*) On all the road gaps in East Pakistan, to initiate river training work for future bridge construction.

(*i*) To prepare a Master Plan for Roads for the period 1970—85.

59. In addition, it will be important to provide adequa e roads to and from the new port at Mongla with a bridge over the Rupsa and complete the feasibility studies for major bridges over the rivers, such as Brahmaputra, Meghna, Meghna-Gumti, Boral, Gorai and three bridges over the Kushiara etc. and follow up the studies with suitable steps to eliminate the bottlenecks at these crossings.

60. Taking into account the growth of traffic and the above priorities, the programme, exclusive of the city roads and streets which will be transferred to the local authorities during the Fourth Plan, will amount to Rs. 1,900 million. This will pose two important problems. Firstly, the throw-forward of approved schemes might amount to Rs. 1,250 million, so that the scope for new schemes is small. It will, therefore, be necessary to review the desirability of dropting approved schemes on which no major expenditure has yet been incurred. Secondly, the far larger investment of the Fourth Plan (more than double that of the Third Plan) will require considerable strengthening of the planning and administrative capacity of the Roads and Highway Directorate and of the local construction industry

61. In physical terms the mileage of high type roads in East Pakistan will increase from 2,450 in 1969-70 to 3,200 in 1974-75.

62. *East Pakistan Road Transport Corporation.*—The vast majority of road transport services are run by private operators in East Pakistan. Government participation in this field is represented only by the East Pakistan Road Transport Corporation whose aim is to supplement private efforts and, additionally, to establish a minimum standard of comfort, safety and reliability.

63. By the end of the Third Plan period EPRTC will have a fleet consisting of 421 single decker buses, 50 double decker buses, 27 trucks and 70 coaches. During the Fourth Plan period EPRTC will continue to supplement the private effort in providing road transportation in East Pakistan and will acquirea gainst the Public Sector allocation of Rs. 65 million, an additional 100 double decker and 270 single decker buses, 70 coaches and 30 trucks. It will concentrate its efforts on the improvemen: of transport facilities within the major urban areas of Dacca, Chittagong, Khulna and Rajshahi. The efforts of East Pakistan Road Transport Corporation will be crucially important because of slow growth in the private sector in the past.

64. *Inland Water Transport.*—The Fourth Plan public sector programme for inland water transport in East Pakistan includes provision for increased number of discharge points at the major inland river ports along with efficient loading and unloading facilities and creation of new discharge points to be fed from chalna. The programme also includes proper maintenance of the existing channels and creating new links and routes necessary for serving the areas in the North Bengal and other places by I.W.T. from the port of Chalna, aids to navigation and training of IWT personnel. For this purpose the I.W.T.A. must acquire sufficient number of suitable navigation dredgers. Extensive mechanization of country boats and introduction of fast moving crafts (Hydrofoil, Hovermarines etc.) are also very important. Of major importance, too, is the Mongla-Ghasiakhali canal. In addition, comprehensive feasibility studies for development of waterways, ports, and a 'pilot study' for building boats (to be mechanised), with cement-concrete and fibre-glass, have to be carried out. The total cost of the Fourth Plan programmes of the IWT Authority comes to Rs. 440 million of which Rs. 113 million will be throw-forward from the Third Plan) against this an allocation of Rs. 315 million is made.

65. *East Pakistan Shipping Corporation.*—EPSC should continue to provide coastal services and expand ferry services to all important river crossings. Till the construction of bridges over the Brahmaputara and the Ganges, some improved and efficient types of ferries (Probably roll-on and roll-off type) should be introduced there. In order to make the financial position sound, EPSC will acquire about 2 oil tankers and a fleet of coasters for lightering purposes. Total public sector programme of EPSC comes to about Rs. 100 million against which an allocation of Rs. 90 million is provided.

CENTRE

66. The allocation for transport and communications in the Centre will amount to Rs. 2,705.6 million of whlch a sum of Rs. 1,433 million will be throw-forward from the Third Plan. The estimates are summarized in the following table:

(Rs. million)

	Third Plan (Estimated) Expenditure)	Fourth Plan (allocation)
Ports and Shipping	100	417.6
Civil Aviation	340	556.0
Other Roads	130	—
Telegraph and Telephones	650	1,352.0
Other Communications	180	270.0
Roads in Azad Kashmir	—	65.0
Roads in Tribal Areas	—	20.0
Transport survey and Research Centre	5	25.0
Total ..	1,405	2,705.6

Ports

67. Traffic through the ports has been increasing at a rapid rate in the recent years. During the Third Plan period, the increase was about 15.50 per cent for Karachi port, 40% for Chittagong port and 100% for Chalna Port. But the present facilities at the ports are quite inadequate for the traffic they are handling. iDurng the Fourth Plan period the traffic is estimated to increase from 15.8 (in 1969/70) to 29.5 million tons (including POL) in 1974/75.

68. Until the completion of the Fourth Plan programmes, to cope with the increasing traffic, *short term* measures such as (a) proper programming of bulk imports and exports; (b) improving the handling and clearance arrangements at the ports; (c) greater use of Chittagong Outer Anchorage facility; and (d) diversion of more and more imported bulk cargo from Chittagong to Chalna, may have to be adopted for East Pakistan. In West Pakistan development of additional port facilities, either as a Second Port or expansion of Karachi Port in addition to the improvement and expansion of customs house facilities at Karachi Port, should be expedited.

69. *Chalna Anchorage.*—By the end of the Fourth Plan, period the anchorage will be called upon to handle about 4.8 million tons of dry cargo. During the Third Plan period, time consuming hydrographic surveys and studies of the channel as well as reclamation, filling and stablisation of land which were a pre-requisite for the construction of permanent port, were completed.

70. In the Fourth Plan, provision is made for the completion of 8 berth for which agreement has already been finalised with a Yugoslav firm. Other major provisions of the Fourth plan include economic and engineering feasibility for deepening of approahes to Chalna including part execution and acquisition of some crafts and equipments. To cover these programmes, an allocation of Rs. 300 million is made in the Fourth Plan against a total requirements of Rs. 465 million.

71. *Second port in West Pakistan.*—The development of Second Port on the Mekran Coast and/or the expansion of Karachi Port on the Western Backwaters is essential to cater for the growing traffic. To save unnecessary wastage of time, all the three studies (namely, expansion of Karachi Port on the Western Backwaters, Sonmiani and Phitti Creek) which are going on to find a suitable site for increasing Port ccpacity West Pakistan should be continued simultaneously.

In addition, it may be worthwhile for the Pakistan Steel Mill Corpration to study the possibilities of locating a deep water sea bouy mooring at a place west of Buliji Point to facilitate bulk handling of raw materials required for their

A provision of Rs. 80 million is made in the Fourth Plan to cover the cost of these studies including the construction of first phase.

Shipping.

72. *Navigational aids on the coasts.*—The existing navigational aids on the coast of both East and West Pakistan are insufficient according to international standard. To ensure safe navigation, all the on-going schemes should be completed within the first two years of the Fourth Plan on a priority basis. An allocation of Rs. 2.9 million is made for this purpose.

73. *Marine Academy and Seamen's Training Centre*—Expansion of the ntional merchant fleet as well as the growing demand of Pakistani personnel by foreign shipping companies necessitate the expansion of the training facilities of Marine personnel, both officers and Seamen. Although a plan is already under execution for increasing the intake of the Mercantile Marine Academy, Chittagong from 50 to 80, yet there is a further need of increasing the capacity. Proper seamen training centres should also be organised in both East and West Pakistan. There is an allocation for these purposes of about Rs.5.0 million .

74. *Government Contribution to NSC.*—An allocation of Rs. 15 million is made as government contribution to the share capital of National shipping Corporation.

Communications

75. *Civil Aviation.*—Air Transportation is of special consequence in Pakistan in the circumstances of physical separation of the two wings. The topographical conditions in East Pakistan and the inadequacy of surface transportation in large areas of West Pakistan by way of travel time, convenience and reliabillity call or wider development of air transportation.

76. Domestic and inter-wing transportation has been growing apace meeting administrative, business and social needs of the country. The pace of development of international air services has been reasonable and has been earning foreign exchange to support the inter-wing and domestic operation.

77. In the opening era of wide-bodied aircraft transportation, PIA should maintain and improve its position in the competitive field of commercial aviation Necessary airports and ground facilities should be provided for wide-bodies aircraft at Karachi, Dacca, Islamabad and Lahore. Ways and means should be developed to reduce dependence on foreign exchange specially in the field of infrastructure by establishing necessary manufacturing facilities in the country. Skill, up-to-date knowledge and know-how capabilities should be built up for the manufacture of light aircraft needed for charter operations, agricultural pest control, flight training and feeder aircraft operations to the level of STOL aircraft.

78. *Telecommunication.*—In the field of telecommunications more telephones will be provided to meet the ever increasing demand and to clear the backlog in

its supply to some extent. The programme will further provide for expansion of the direct dialling facilities; expansion of Telex and Gentex telegraph systems to improve the telegraph traffic, and expansion of the main trunk lines together with improvement of subsidiary routes in both wings of the country.

79. Two earth stations for inter-wing communications will be established. The target for telephones are-All Pakistan 1,90,000; East Pakistan 70,000; and West Pakistan 120,000.

80. Provision has also been made for the augmentation of telephone factories including National Radio and Telecom Corporation set up for the manufacture of microwave systems.

81. The Post Offices Department programme includes opening of some 3.000 new small offices, a majority of which will be in the rural areas. These will be equally distributed between the two wings of the conntry. The capital works programme includes completion of the ongoing schemes, including the head - quarters building in Islamalbad, additions and alterations to and reconstruction of old post office buildings and provision of a few new post office buildings in the growing urban areas.

82. The programme under broadcasting covers the completion of ongoing schemes for installation of high-power transmitters in both wings of the country including a modest broadcasting house in Islamabad, and for undertaking a bare minimum of new schemes. Provision has also been made for setting up a national academy of mass media sciences in Islamabad.

83. Under the television programme, provision has been made for the creation of necessary technical facilities for the introduction of educational Television services. Besides, the programme covers the completion of the T.V. Corporations ongoing schemes including Television Institute and a film processing workshop in Islamabad.

84. In the whole field of transportation, except for move ment by railways and airways the transportation operation is run mainly by the private sector. The public sector is responsible for the construction of roads, bridges, ports and conservation of waterways. Actual operation of transport is left to private enterpreneurs, except the limited operations by public road transport agencies and the National Shipping Corporation.

85. In the Third Plan, an allocation of Rs. 3.900 million (of which Rs. 1,488 million was for semi-public agencies, was made for the private transport and communication sector. While information regarding the implementation of the programme of the semi-public bodies is available,there is inadequate information on the investment by the private sector on buses, trucks and boats. It has been estimted that the total semi-public investment during the Third Plan would be about Sec CuhmRs. 1,500 million which is much less than the target. The main reasons behind such shortfall were the non-availability of long-term low-interest loans and an unfavourable import policy for Vehicle, spare parts and maintenance requirements. Beside, Rs. 65 million and Rs. 20 million have been provided for development of transport & Communication facilities in Azad Ksashmir, and Centrally administred tribal areas.

86. The Fourth Plan expects investment of Rs. 5.160 million in the non-government financed transport and communications sector; Rs. 2,170 million in

the semi-public sector and Rs. 2,990 million in the private sector. The targets can be achieved if situations are made favourable to the private investors as detailed below.

(a) Since the growth of private investments is to a large extent dependent on certain types of public ependiture such as the construction of roads and bridges, development of ports, waterways, landing stations etc., due attention should be given to the timely implementation of the public sector programmes.

(b) To encourage additional private investment in road transport to the extent of 64,500 commercial vehicles, a growth oriented inter-urban bus permit system is absolutely essential.

(c) Imports of spares parts and other maintenance requirements should be liberalised.

(d) Domestic manufacture of bus and truck chassis, auto-rickshaw engines, marine engines, spare parts and accessories, should be encouraged as far as possible and adequate credit facilities should be made available for purchase of domestic equipment Standardisation of vehicle models may be necessary in this respect.

(e) The present restriction on the increase of payloads should be re-examined in the light of the demand of heavier vehicles and road improvements.

(f) Mechanisation of country boats should be given top priority and research should be conducted on the introduction of improved modern and faster inland vessels. The 25 different types of taxes that are being paid by the IWT operators, should be reviewed and brought in line with other competing modes of transport. Provision of suitable repair facilities for IWT vessels is of urgent necessity.

(g) A regular and semi judinal procedure for revision of transport charges and fares line in with changing costs should be evolved.

(h) Low-interest and long-term credit facilities should be made available to private investers

(i) As highway travel by auto, bus and truck reaches appropriate levels, the need will be created for private investment to provide highway-oriented accommodation such as restaurants and rest houses (hotels) besides petrol service stations. In addition public sector efforts should be extended to provide landscaped parking places along the highways with essential service facilities (water, w.c. etc.) for the convenience of the traffic.

87. *Shipping.*—At the beginning of the Third Plan period, Pakistan had 52 ships and the Third Plan made provision to increase this number to 98. But due to difficult Pay as you Scheme Earu the total number increased to only 66 at the end of the Third Plan period.

88. There appears to be wide scope for private/nationalised investment in Shipping. The Pakistan-flag ships at present can carry only 14 percent of Pakistan's total international trade and as a result, about Rs. 700 million of foreign exchange is being paid every year by way of ocean freight to foreign ships. Pakistan is entitled to at least 940 per cent share.

89. Policies for encouraging the use of Pakistani ships in Pakistan's international trade should be strengthened further. In future, all bulk imports under loan or cash sources and a half of the trade moving under barter agreements should be on FOB basis. New shipping routes particularly Pakistan-Persian Gulf-Red Sea—East Africa route(s) should be developed on a priority basis. The Pakistan Shipper's Council should be properly organised with its activities spread over national and regional levels.

90. Transport of Petrol, Oil and Lubricant being a highly specialised field possibilities for the formation of an Oil Tanker Company with headquarters in East Pakistan should be explored. However, there should be no restriction on National Shipping Corporation and other private parties in acquiring tankers.

91. Increase of ocean freight rates by Conference Lines has become a regular feature. To guard against these increases, *short-term* measures such as (a) allowing the National Shipping Corporation and other shipping lines to negotiate and join other conference lines (b) chartering of ships to be made easier and *long-term* measures such as (i) increasing our fleet strength as rapidly as possible and (ii) improving our ports on priority, may be adopted.

92. The new shipping policy has made certain provisions to encourage East Pakistani capital/entrepreneurs' participation in shipping. In case, it fails to do so, further measures should be adopted in the public sector during the Fourth Plan period.

93. The Fourth Plan targets are designed to raise Pakistan's share in international trade to 26 per cent. In physical terms, the target is to acquire 75 ships (18 for replacement and 57 additions) to raise the fleet strength to 123 ships of 1.3 million DWT. To cover these programmes, an allocation of Rs. 890 million is made (Rs. 450 million for National Shipping Corporation and Rs. 440 million for Private Shipping Companies).

94. *Semi-Public Agencies.*—The allocation for transport and communications in the Semi-Public sector is kept at Rs. 2,170 million as indicated below :

(Million Rupees)

	Fourth Plan Allocation
Karachi Port Trust	390
Chittagong Port Trust	290
National Shipping Corporation	450
E.P.R.T.C.	50
W.P.R.T.C.	300
E.P.S.C.	40
P.I.A.C.	350
T.V.C.	100
Total ..	2,170

95. *Karachi Port.*—By the end of the Third Plan period, Karachi Port will have in all 21 berth, of which 2 will be under reconstruction. Major schemes completed during the Third Plan period were the construction of a new oil berth, two new lighterage berths at Juna-Bunder, rehabilitation of Manora Breakwater and construction of a sea wall. A Master Plan for the port up to 1980—85 was also prepared. An expenditure of Rs. 251.68 million was made as against an allocation of Rs. 300 million.

96. According to an estimate, the port will be required either singly or in combination with second port, to handle about 10 million tons of dry cargo in 1974-75 necessitating ordinarily about 50 general purpose berths. Provision is ,therefore, made for the completion of all ongoing schemes which will require nearly Rs. 280 million and will raise the number of berths to 32 by the end of the Fourth Plan period. In addition, the Fourth Plan programme includes the reconstrution of Napier Mole Road bridge, and other civil engineering works including the drainage system. If the port facilities for the Steel Mill are to be provided in the Karachi port area, the porivision for the construction of berths at western backwaters may have to be reviewed. An allocation of Rs. 390 million is made in the Fourth Plan against an estimated requirement of Rs. 500 million.

97. *Chittagong Port.*—By the end of the Third Plan period, Chittagong port will have about 8 new berths and 6 very old berths the reconstruction of which has already started. Major schemes completed during the Third Plan period were the acquisition of a floating crane of 120/125 tons capacity, provision of an off-shore oil terminal and preparation of a Master Plan for the port up to 1980–85. An expenditure of only Rs. 111.355 million was incurred against an allocation of Rs. 300 million.

98. According to an estimate the port will be required to handle about 4.7 million tons of dry cargo by 1974-75 necessitating ordinarily about 24 general purpose berths. Provision is, therefore, made for the completion of all ongoing schemes which will need about Rs. 250 million and will raise the total number of berths to 22 (including 3 private berths). Other major Fourth Plan programmes include a feasibility seudy for decpening the channel so as to have a minimun of 27′ draft throughout the year, purchase of essential crafts and equipments and other civil engineering works including rehabilitation of railway tracks. An allocation of Rs. 290 million is made in the Fourth Plan against an estimated requirements of Rs. 355 million.

99. *National Shipping Coporation.*—The National Shipping Corporation acquired about 20 dry cargo vessels (12 new and 8 second hand) during the Third Plan period to raise its total strength to 26 ships. During the Fourth Plan period, National Shipping Corporation is expected to acquire additional 9 new ships, 16 second hand ships and about 7 tankers bulk carriers costing about Rs. 450 million.

100. *West Pakistan Road Transport Corporation.*—During the Fourth Plan period the West Pakistan Road Transport Corporation will be mainly responsible for providing road transport services in the urban and suburban areas. An allocation of Rs. 300 million has been made for the W.P.R.T.C. in the Fourth Plan for the acquisition of 2,500 buses (both for replacement and additions) and for provision of related facilities.

101. *East Pakistan Road Transport Corporation.*—The E.P.R.T.C. has been in the public sector in the past. Consideration should be given to making it a semi-public agency, like the R.T.C. in West Pakistan even though it may still need public fund support. The major focus of this Corporation during the Fourth Plan should be on providing adequate bus services in large cities. The extreme congestion on buses indicates that the demand for such a service is not now adequately met. With the rapid increase in urban population and income, the demand is likely to rise sharply. Inter-city services will require a more modest expansion because private enterprise can provide such transport profitably. However, a major effort should be made to increase the utilization of the existing fleet by adequate training of staff, better repair facilities, and more liberal import of spare parts.

102. *Pakistan International Airlines Corporation.*—The PIAC will almost double its capacity by replacing part of the existing equipment by larger capacity

aircraft and by acquiring additional aircraft. Feeder operations in both wings of the country are likely to be initiated with STOL aircraft.

105. *The Television Corporation* will expand its activities especially in the field of educational television and cover 59 per cent of the population in West Pakistan and 77 per cent in East Pakistan.

106. Benchmarks and physical targets are annexed as Table I, II and III.

107. Details of the agency-wise allocations are annexed as Table IV.

TABLE I

BENCHMARKS AND PHYSICAL TARGETS FOR THIRD AND FOURTH PLANS

All Pakistan

Description	Unit	Bench-marks for the 3rd Plan 1964-65	Targets* for the Third Plan 1965-70	Bench-marks for the 4th Plan 1969-70	Targets* for the Fourth Plan 1974-75	Per cent increase in 1974-75 over 1969-70
1	2	3	4	5	6	7
1. **Railways**						
Locomotive (D.E. and electric)	Number	413	245	629	702	33.5
Locomotives (Steam) ..	Number	1,082	—	1,046	913	12.6
Passenger carriages and other coaching vehicles	Number	5,109	1,542	5,492	5,692 (754)	3.6
Wagons	Number	59,141	13,393	61,616	64.186 (5,816)	4.1
2. **Road Transport**						
Buses	Number	10,530	10,560	14,204	26,362 (7,610)	85.6
Trucks	Number	26,995	20,000	35,455	65,175 (14,656)	83.8
High Type Roads ..	Miles	13,363	2,750	14,950	18,200	21.8
3. **Communications**						9
Telephones ..	Number (000)	129.0	150.0	202.0	392.5	3.8
Post Offices ..	Number	11,800	2,000	14,300	17,300	21.0
Ships	Number	52	60	66	123 (18)	86.0
4. **Civil Aviation**						
Airports ..	Number	18	43	27	53	96.3
5. **Airlines**						
***Pakistan International Airlines Corporation.*						
Passenger-miles available.	Pax miles (million)	889.6	1,792.5	1,718.1	3,427.1	99.5
Passenger-miles performed.	Pax miles (million)	593.5	1,068.4	1,081.2	2,022.5	87.0
Ton miles available ..	Ton miles (million)	124.4	243.4	227.7	543.8	138.9
Ton-miles performed	Ton miles (million)	78.9	148.9	139.1	326.3	134.5

*While the targets for Third Plan indicate the total planned acquisition during the Third Plan, the targets, for the Fourth Plan indicate the position in 1974-75 after taking into account the replacements in parenthesis to be made during Fourth Plan period.

*Planning Commission ' Mid Plan Review, April, 1968.

Note.—** Total for PIA, includes all operations, international Interwing and Intra-provinces.

TABLE II

BENCHMARKS AND PHYSICAL TARGETS FOR THIRD AND FOURTH PLAN

***East Pakistan**

Description	Unit	Bench-marks for the 3rd Plan (1964-65)	Targets* for the 3rd Plan Plan (1965-70)	Bench-marks for the 4th Plan (1969-70)	Targets* for the 4th Plan Plan (1974-75)	Per cent increase in 1974-75 over 1969-70
1	2	3	4	5	6	7
1. Railways						
Locomotives (D.E.) ..	Number	102	84	160	230	44.0
Locomotives (Steam)..	Number	381	—	340	280	17.6
Passenger carriages and other coaching vehicles	Number	1,872	739	1,950	2,150 (334)	10.2
Wagons	Number	22,680	4,161	21,400	23,000 (4,316)	7.5
2. Road Transport						
Buses	Number	3,200	4,000	4,552	10,772 (2,610)	138.0
Trucks	Number	7,900	9,500	8,844	26,075 (4,656)	195.0
Hightype Roads ..	Miles	1,963	1,000	2,450	3,200	30.6
3. Communications						
Telephones ..	Number (000)	30.0	60.0	50.5	120.5	138.6
Post Offices ..	Number	5,200	1,000	6,100	7,600	24.6
		****East Pakistan**				
4. Civil Aviation						
Airports	Number	7	15	9	23	155.6
5. Airlines						
Pakistan International Airlines Corporation:						
Passenger-miles available	Pax miles (million)	33.3	53.4	50.4	101.8	101.8
Passenger-miles performed	Pax miles (million)	22.5	37.4	36.8	70.8	92.2
Ton miles available ..	Ton miles (million)	3.3	5.4	5.1	12.0	136.7
Ton miles performed..	Ton miles (million)	2.1	3.9	3.5	8.4	143.4

Note.—*While the targets for Third Plan indicate the total planned acquisition during the Plan period, the targets for the Fourth Plan indicate the position in 1974-75 after taking into account the replacements in parenthesis to be made during the Fourth Plan period.

*Planning Commission " Mid Plan Review " April, 1968.

**' East Pakistan , includes operation within East Pakistan province only.

TABLE III

BENCHMARKS AND PHYSICAL TARGETS FOR THIRD AND FOURTH PLANS

West Pakistan

Description	Unit	Bench-marks for the 3rd Plan 1964-65	Targets* for the 3rd Plan 1965-70	Bench-marks for the 4th Plan 1969-70	Targets* for the 4th Plan 1974-75	Per cent increase in 1974-75 over 1969-70
1	2	3	4	5	6	7
1. Railways						
Locomotives (D.E. and Electric)	Number	311	161	366	472	29.0
Locomotives (Steam)..	Number	701	—	706	633	(—) 10.3
Passenger carriages and other coaching vehicles	Number	3,237	803	3,542	3,452 (420)	—
Wagons	Number	36,461	9,232	40,216	41,186 (1,500)	2.4
2. Road Transport						
Buses	Number	7,330	6,500	9,682	15,590 (5,000)	61.0
Trucks	Number	19,095	10,500	26,611	39,100 (10,000)	47.0
High Type Roads ..	Miles	11,400	1,750	12,500	15,000	20.0
3. Communications						
Telephones ..	Number (000).	99.0	90.0	152.0	272.0	79.0
Post Offices ..	Number	6,600	1,000	8,200	9,700	18.0
	****West Pakistan**					
4. Civil Aviation						
Airports	Number	11	28	18	30	66.6
5. Airlines						
Passenger-miles available.	Pax miles (million)	265.1	350.6	313.8	670.5	113.7
Passenger-miles performed	Pax miles (miles)	174.9	234.0	232.2	442.9	90.7
Ton-miles available ..	Ton miles (million)	28.1	36.3	33.2	81.2	144.4
Ton-miles performed ..	Ton miles (million)	16.7	25.4	22.7	55.7	146.1

*While the targets for Third Plan indicate the total planned acquisition during the Plan period, the targets for the Fourth Plan indicate the position in 1974-75 after taking into account the replacements in parenthesis to be made during the Fourth Plan period.

**Planning Commission " Mid Plan Review " April, 1968.

•• West Pakistan, includes operation within West Pakistan province only.

TABLE IV

TRANSPORT AND COMMUNICATIONS FOURTH PLAN ALLOCATION (1970-75)

I. Public Sector

(Rs. Million)

Sub-Sectors	Fourth Plan Allocation 1970—75		
	East	West	Total
A. Provincial Subjects			
Railways	1,075	1,080	2,155
Road and Highways (excluding operational roads)	1,258	11,00	2,358
Inald Water Transport Authority	315	10	325
East Pakistan Road Transport Corporation	65	—	65
East Pakistan Shipping Corporation	90	—	90
Research and Study	20	10	30
Block allocation	177	—	177
Sub-total (A)	3,000	2,200	5,200
B. Central Subjects			
Chalna Port	300.0	—	300.0
Second Port in West Pakistan	—	80.0	80.0
Shipping :			
Mercantile Marine Academy ; Navigational Aids, Hydrographic Survey Ship, Seamens School	14.5	8.1	22.6
——Government contribution to National Shipping Corporation.	7.5	7.5	15.0
Civil Aviation	260.0	296.0	556.0
Telegraphs and Telephone (including National Radio and Telecom-Corporation)	546.0	806.0	1,352.0
Post Office	45.0	50.0	95.0
Radio Pakistan	55.0	70.0	125.0
National Academy Mass Media Sciences (MMS)	—	25	25.0
Television (Educational Tv.)	12.5	12.5	25.0
Azad Kashmir and Northern area roads	32.5	32.5	65.0
Central administered Tribal territory roads	10.0	10.0	20.0
Transport Surveys and Research Centre	10.0	15.0	25.0
Sub-total (B)	1,293.0	1,412.6	2,705.6
Total of T. & C Public Sector	**4,293.0**	**3,612.6**	**7,905.6**

II. Semi-Public Sector

(Rs. Million)

Sub-Sectors	Fourth Plan Allocation		
	East	West	Total
A. Provincial Subjects			
Road Transport Corporations	50	300	350
East Pakistan Shipping Corporation	40	—	40
Sub-Total (A) ..	90	300	390
B. Central Subjects			
Karachi Port Trust	—	390	390
Chittagong Port Trust	290	—	290
National Shipping Corporation	225	225	450
Pakistan International Airlines Corporation	275	275	550
Television Corporation	50	50	100
Sub-Total (B) ..	840	940	1,780
Total fo T. & C. Semi-Public Sector ..	930	1,240	2,170

III. Private Sector

Sub-Sector	Fourth Plan Allocation		
	East	West	Centre
A. Provincial Subjects			
Inland Water Transport	300	10	310
Road Transport	790	1,450	2,240
Sub-Total (A) ..	1,090	1,460	2,550
B. Central Subjects			
Shipping	180	260	440
Total for Private Sector ..	1,270	1,720	2,990
Total for T. & C. (Semi-Public and Private) ..	2,200	2,960	5,160
Grand Total for T & C, Public Semi-Public and Private Sectors	6493.0	6572.6	13065.6

CHAPTER 24

PHYSICAL PLANNING AND HOUSING

1. Deliberate planning of physical environment has emerged as a new technique and profession, only in the recent years. For quite sometime, there was a general belief, that certain price had to be paid for rapid economic development in the form of deteriorated living conditions. Regional and City Planners and more recently Ecologists, have brought out the fact that poor living conditions and dilapidated physical environment, need not follow rapid economic development; in case physical and social planning are well integrated with economic planning on sub-national, regional and local levels. Thus, new powerful tools and techniques are now available to us, in order to ensure that economic developmen does not produce chaotic physical environment, bad living conditions and serious problems of adjustment. Professions of Ecology and Comprehensive Regional and Urban Planning are hardly seventy years old, but they have developed a multi-sectoral approach, using areal geographic concepts, as well as policies for harmonious adjustment and or adaption of human beings to the environment and *vice versa*. We can certainly benefit from these theories, with appropriate modifications for our own use. In Pakistan, growth of physical welfare facilities and services has not kept pace with economic growth. A lack of resources, ineffective controls, over-crowding, and inability to provide essential facilities and services have resulted in deteriorated living conditions which have caused many problems and created serious tensions. Unless we create a decent and healthy environment to match the programmes of industrialization and agricultural development, the physical and social problems may slow down or even halt the overall economic growth.

2. The housing situation in the country has been gradually deteriorating. The housing backlog in urban areas has increased progressively; from a shortage of 600,000 dwelling units in 1960 to a shortage of approximately 1-1/2 million dwelling units by June 1970. The position of water is even more alarming; hardly 10 per cent of the total population has access to drinkable water. In large urban areas, not more than 30 per cent of the population has access to piped water. Most of this is from public stand posts, and only 7 per cent of the urban population has piped water supplied to their houses. In rural areas sewerage and excreta disposal are virtually non-existent. In urban areas piped sewerage is available to a mere 2—4 per cent of the population while the rest use either the traditional disposal system or open drains and spaces. Hardly 40—60 per cent of the urban population have any access to open drains for general drainage. As a result of poor arrangements for water, sewerage and drainage, the population is plagued with hepatitis and dysentery and malaria cannot be fully eradicated. Transport facilities are poor and dangerous. Shortage of parks and recreational facilities have created problems for industrial workers, urban families and the youth and result in unhealthy and harmful practices at times erupting into serious tensions and violence.

3. Uncontrolled development and an ineffective urbanization strategy place enormous hurdles in the way of wholesome progress. Concentration of economic growth and development in certain developed areas has widened the economic and social gap between the developed and the depressed regions of the nation.

PAST PERFORMANCE

4. The First and Second Plan had to be devoted to the settlement of 9 million displaced persons from India, who were squatting all over the urban areas.

The Plans also aimed at creating the most essential institutional and organizational framework, which could at least provide some semblance of much needed local and provincial governmental network for this sector ; some urgent water, sewerage and drainage schemes were taken up particularly in Karachi. Our building research remained pitiable and we made no headway with regional and urban planning.

5. With the settlement of the displaced families and development of a crude institutional and organiszation framework, the Third Plan was intended to initiate the first modest comprehensive programme for Physical Planning and Housing, both on a curative and a preventive basis. Unfortunately, this had to be abandoned very soon due to a combination of adverse circumstances in the very first year of the Plan. The sectoral programme was reduced to the provision of bare essentials. The revised Third Plan programme amounted to Rs. 2,477 million (Rs. 1,008, Rs. 739 and Rs. 730 million for East, West and Centre respectively) and it is estimated that by June, 1970, it will have been executed to the tune of Rs. 1,636 million (Rs. 641, Rs. 366 & Rs. 629 million for East, West and Centre respectively) thus creating a shortfall of Rs. 841 million *i.e.* approximately 34 per cent. This shortfall was mainly due to the lowering of sectoral priority by the Provincial Government at the time of preparation of the Annual Development Programme and organizational inadequacies. Progress in physical terms during the three Plans is summarized in Table I.

TABLE 1

PHYSICAL PLANNING AND HOUSING SECTOR

(Benchmarks for the Fourth Plan)

Sub-Sectors/Items	Units	Total Achievements up to end of Second Plan Period 1960—65	Third Plan Targets (1965—70)	Achievements during Third Plan Period (1965—70)	Total Achievements during 2nd & 3rd Plan periods (1960-65, 1965—70)	Fourth Plan Benchmarks
1. Provincial Outline Development Plan ..	Nos.	—	1 Plan	1 Plan (20%)	1 Plan (20%)	1 Plan (20%)
2. Urban Development Plans	Nos.	3	12	6	9	9 Plans.
3. Regional Development Plans	Nos.	—	1	1 Plan (20%)	1 Plan (20%)	1 Plan (20%)
4. Building & Housing Research Centre ..	Nos.	2 Centres (30%) each.	2	2 Centres (30%) each.	2 Centres (60%) each.	2 Centres (60%) each.
5. Building Trade Schools	Nos.	3	1	1	4	4 Schools.
6. Urban Residential Plots	Nos.	1,50,000	1,30,000	80,000	2,30,000	2,30,000 Plots
7. Urban Water Supply—Sewerage and Drainage	Nos.	23 Urban Areas	45 Urban Areas	33 Urban Areas	56 Urban Areas	56 Urban Areas.
8. Rural Water Supply :						
(*i*) East Pakistan	No. of Tube-wells.	1,00,000 Tube-wells.	1,60,000 Pumps & Tubewells.	64,000 Tube-wells.	1,64,000 Tube-wells.	1,64,000 Tube-wells.
(*ii*) West Pakistan	No. of Villages	103 Villages	400 Villages	370 Villages	473 Villages	473 Villages
9. Public Health Engg. Laboratories and Institutes	Nos.	—	2	4	4	4 Labs.

6. From Table I it will be seen that the achievement during the Third Plan in physical terms has been extremely modest. In East Pakistan very little work has been accomplished in developing the Building and Housing Research Centre, preparation of provincial Outline Development Plan and in organizing effective administrative machinery for implementation of these Plans. Except for large cities such as Dacca, Chittagong, Lahore and Karachi, the implementation of Water supply and sewerage schemes and especially of small towns in both provinces was much lower than the Third Plan target inspite of the fact that these schemes were given priority over other works at the time of preparation of the Annual Development Programme. In West Pakistan up to the end of Third Plan six Master Plans and one Outline Development Plan would have been completed but as yet legal framework and administrative arrangements have not been finalized to implement these plans. If immediate steps are not taken to implement these plans, then all the efforts made in the preparation of these Plans will be wasted. The most disturbing feature which is evident from table 1 is that during the three Plans period the housing backlog in urban areas has been increasing progressively. The production of urban plots on which the new houses could be built has been declining sharply. This is because the crash programme undertaken during the first and second Plan for the rehabilitation of refugees had reached a stage of completion and there was no continuous systematic programme of solving housing problems of the country.

7. The achievements by executing agencies in financial terms were 80 per cent by the Central Government, 64 per cent by East Pakistan and only 48 per cent by West Pakistan. The West Pakistan Government has not yet developed an adequate institutional and organizational framework.

8. However, the overall national picture at present is definitely better than in 1955. A crude organizational framework has been developed, most pressing emergency tasks have been completed and some water and sewerage problems are being tackled. Experience has been gained about the futility of simple slum clearance without adequate tie in with work opportunities. A preliminary national pilot programme for regional and urban development has been initiated. Building and Housing Research Centres are being developed. A general awakening has taken place amongst the government departments and ministries that regional, urban and rural planning and development need inter-departmental co-operation. This awakening has not necessarily led to actual cooperation or co-ordination but at least the consciousness seems to have come about.

PROBLEMS

(a) *General*

9. The urgency of our Physical Planning and Housing problems arises primarily from three sources : (a) the rapidity of population growth ; (b) the poverty of our people and (c) uncontrolled and unbalanced urban growth.

10. Tables 2 and 3 and the attached diagram show that our urban population is growing by just under 6 per cent a year and our rural population by about 2.2 per cent. Even if family planning and other population programmes become highly successful, the growth rate of urban population is unlikely to fall and the population of some of our bigger cities would be growing by more than 6 per cent a year. During the Fourth Plan period there will be a total increase of 19 million people of which 6.5 million will be in urban areas (5.0 million in West Pakstan and 1.5 mllion in East Pakistan). This means that 1.3 million additional urban housing units will be required during 1970 75. In addition there is a backlog of 1.5 million housing units which should be constructed if the

urban population is to be decently housed. Besides acute shortage of housing resulting in over-crowding and squatter settlement, there is also a serious shortage of potable water, absence of mass sanitary facilities and electricity and lack of parks, playground and recreational facilities.

TABLE 2

URBAN AND RURAL POPULATION OF PAKISTAN 1950—75

(Million)

	Total	Urban	Rural	Percentage Urban
1949-50	78.8	7.8	71.0	9.9
1959-60	98.9	12.6	86.3	12.8
1964-65	115.0	16.0	99.0	13.9
1969-70	132.3	21.5	110.8	16.3
1974-75	151.5	28.0	123.5	18.4

TABLE 3

URBAN AND RURAL POPULATION BY PROVINCE: 1970—75

		Pakistan	East Pakistan	West Pakistan
1970	Population	132.3	72.4	59.9
	Urban	21.5	4.5	17.0
	Rural	110.8	67.9	42.9
1975	Population	151.5	83.1	68.4
	Urban	28.0	6.0	22.0
	Rural	123.5	77.1	46.4

of the increase in urban population is being located in the existing and developing metropolitan centres of East and West Pakistan as shown on the attached maps. The main contributing cause is massive rural-urban migration. This results largely from push factors from the rural countryside, due to the low level of rural living. On the basis of existing trends it is obvious that during the Fourth Plan, the bulk of urban growth would be concentrated in the large cities. This will make the problems of metropolitan areas more serious and will demand a more comprehensive and imaginative approach towards physical planning and housing. As a result of this, the housing needs, particularly for low income families and industrial workers have become enormous and are increasing much more rapidly than the supply of new housing.

(b) *Rural*

12. Our rural population faces serious problems of transportation, drainage, watersupply, and sanitation. In addition, there is a serious shortage of schools and a number of other amenities and facilities in the rural areas. It is, therefore, necessary that a comprehensive programme for rural development should be chalked out, utilizing the Comilla approach as well as other experiences gained

in East and West Pakistan. However, before any such programme can be launched, operational and action-oriented research will have to be carried out. Such research could be conducted by universities and other institutions which may have either the facilities or interest for such type of research. Before launching a large scale programme, the parameters of Pakistani cultural, social and economic system must be examined very carefully and we should then consider whether new developments can be achieved within these parameters or these parameters themselves need to be changed. In case of rural areas along with land reforms, a number of other supporting and complimentary efforts for creating a new type of rural society are essential, In this connection we may promote new experiments as well as other means of bringing technological benefits to the rural population through collective efforts. It will be necessary to establish a hierarchy of villages according to their functions, so that various essential facilities could be located according to the functional pattern of the villages. In such a system, certain facilities, which could not be located in every village could be located in a central village which may be linked with smaller villages. Thus these facilities may be available to all the villages through an efficient system of transportation.

13. It is felt that given adequate capital resources and technical assistance, it would be possible to motivate rural people to participate effectively not only in running some of their affairs but also in trying to improve their standard of living as well as helping in the national development process. The local leaders (religious, social etc.) could be motivated and trained so that there is effective participation in the rural development process. In order to achieve this type of development, training of personnel will have to be carried out in a systematic manner. This could be carried out either at the Rural Development Academies and other concerned institutions, or special training courses may be established within the universities.

14. There are a number of mis-conceptions about rural development. It is essential to note that :—

1. The historical interia of the rural people has considerably changed over time and we should not any longer consider them as inert and simple folk not interested in their own development.
2. Allocation of resources should be based on real needs and priorities and not merely on certain statistics of rural and urban areas.
3. There is not merely a physical but also a psychological gap between the rural and urban areas. It is also important to reduce this psychological gap.
4. It will not be possible to promote any comprehensive rural development all by itself. Rural development is intimately linked with urban development and as such we should adopt a systematic approach for regional planning and development. Within the framework of such an approach comprehensive rural and urban development plans can be prepared.

15. There is also an urgent need for clearer concepts and definitions of urban and rural development.

16. Enough attention has not been given to rural and urban transportation or well thought-out programme for rural electrification. As far back as in 1937, there were suggestions not only about the importance of construction of roads,

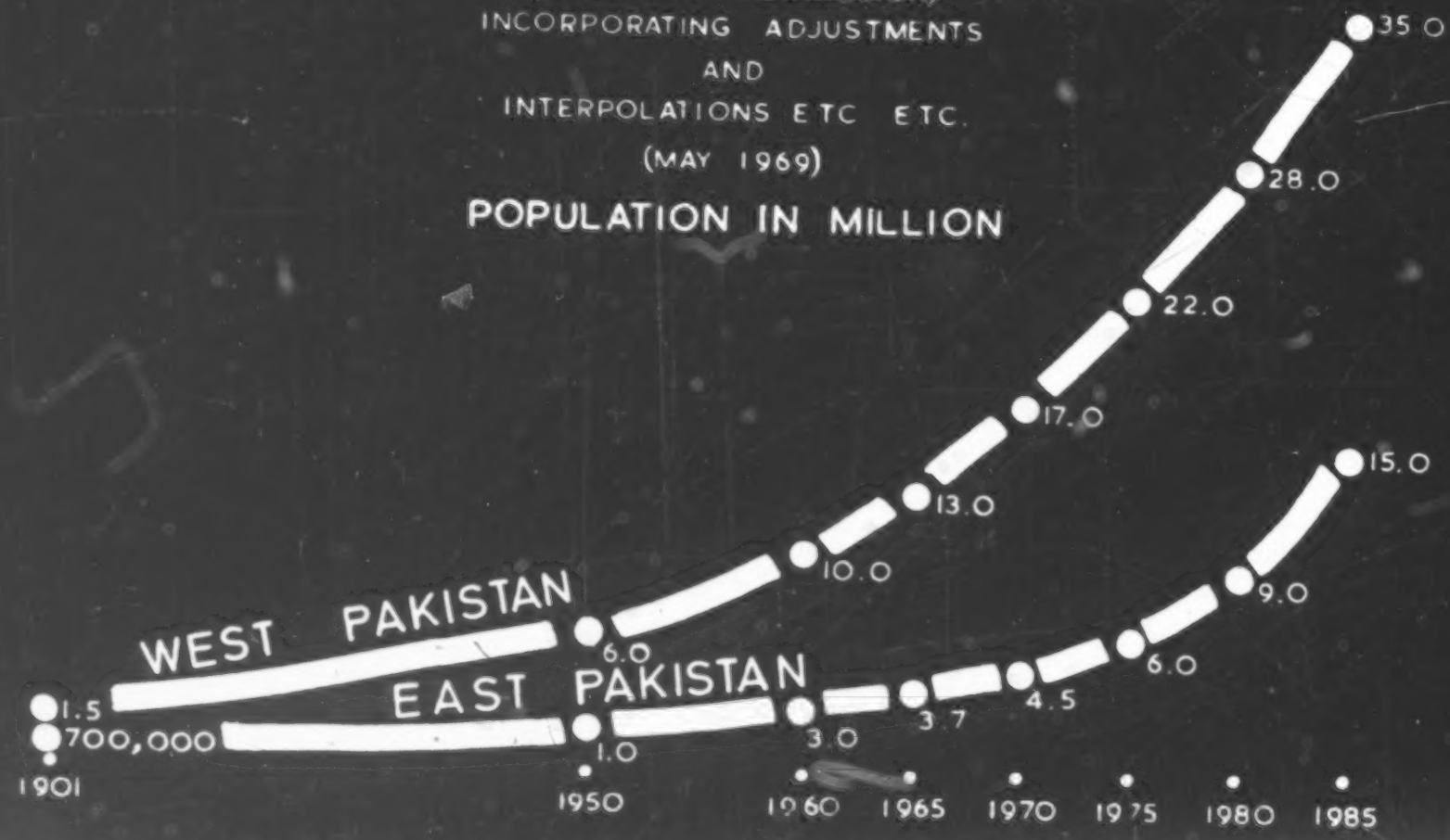
URBAN POPULATION

EAST & WEST PAKISTAN

1901—1985

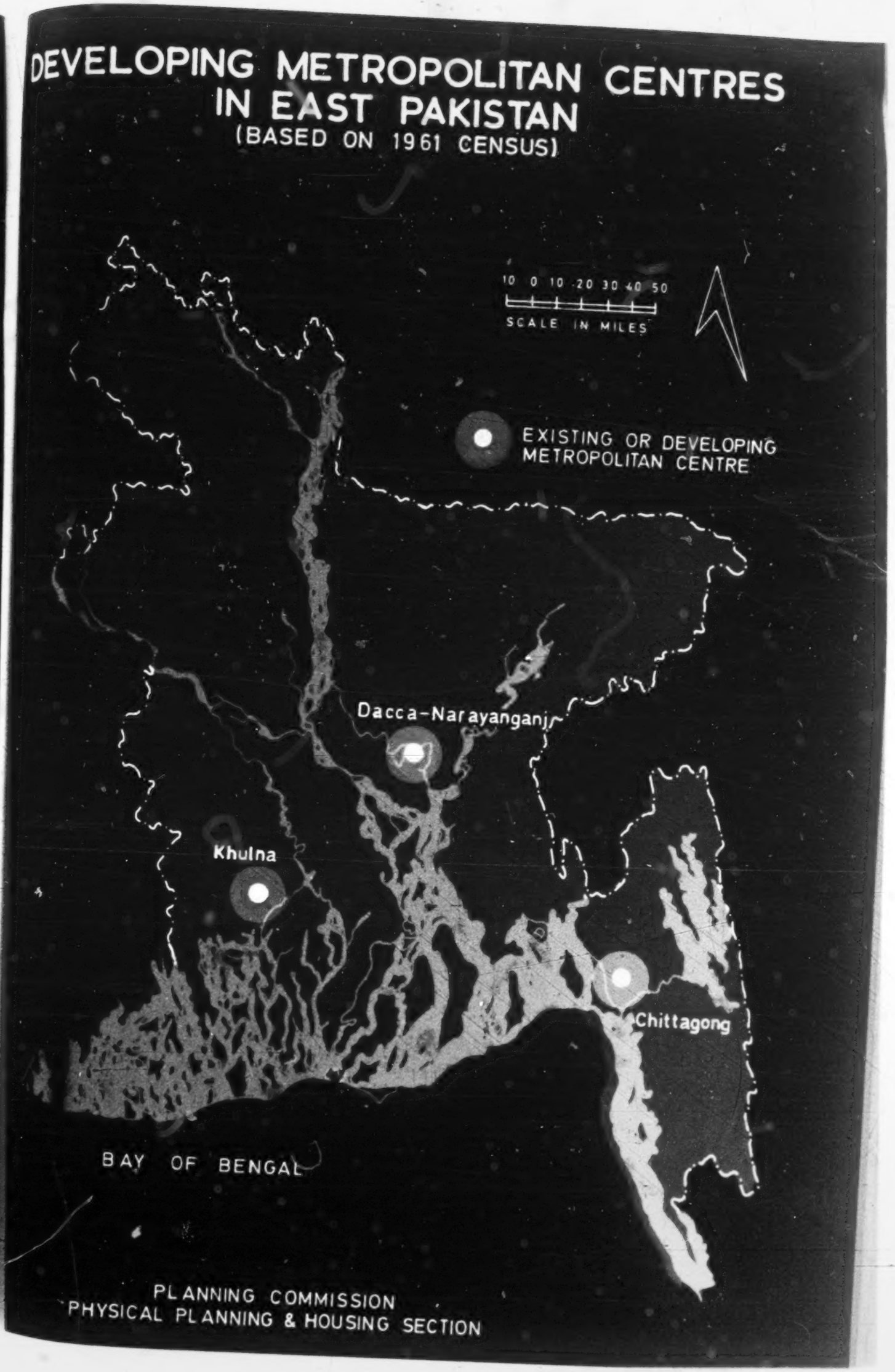
APPROXIMATE ROUGH ESTIMATES
BY
PHYSICAL PLANNING SECTION
(PLANNING COMMISSION)
INCORPORATING ADJUSTMENTS
AND
INTERPOLATIONS ETC ETC.
(MAY 1969)

POPULATION IN MILLION

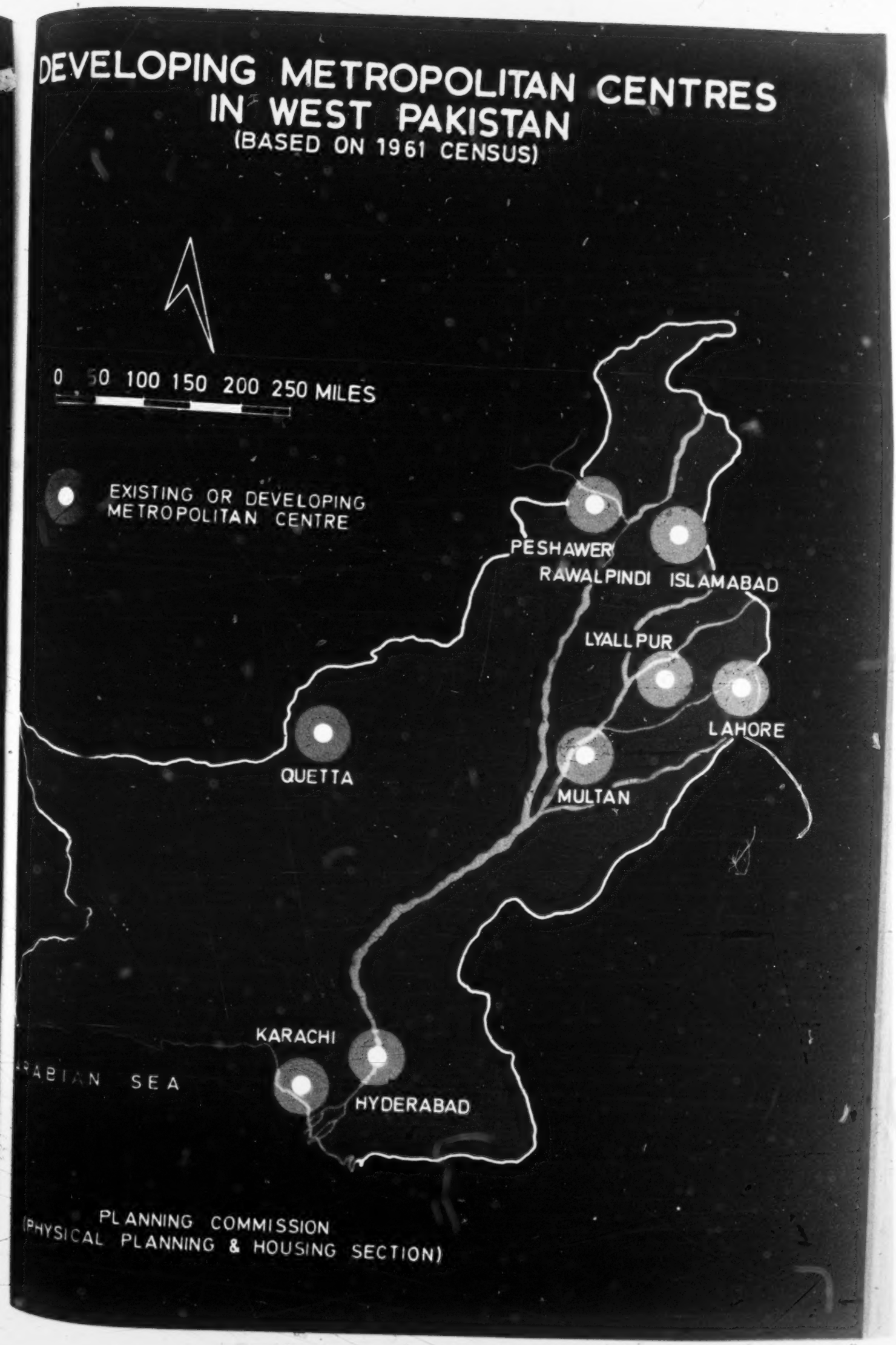


DEVELOPING METROPOLITAN CENTRES IN EAST PAKISTAN

(BASED ON 1961 CENSUS)



PLANNING COMMISSION
PHYSICAL PLANNING & HOUSING SECTION


DEVELOPING METROPOLITAN CENTRES
IN WEST PAKISTAN
(BASED ON 1961 CENSUS)
0 50 100 150 200 250 MILES
EXISTING OR DEVELOPING
METROPOLITAN CENTRE
PESHAWER
RAWALPINDI
ISLAMABAD
LYALLPUR
LAHORE
QUETTA
MULTAN
KARACHI
HYDERABAD
ARABIAN SEA
PLANNING COMMISSION
(PHYSICAL PLANNING & HOUSING SECTION)

within the rural areas but also linking the rural areas to urban centres. Both problems need attention. In addition, the present programme of rural electrification needs to be properly integrated with a well thought-out programme of rural development and village planning. In the past no serious efforts have been made to improve the quality of life of villagers. Although Rural Works Programme has made a significant impact on certain aspects of rural life, still much remains to be done.

c. *Metropolitan and Urban*

17 The breakdown of urban income groups given in table 4 below reveals the significant fact that 72 per cent of households are so poor that they cannot pay the economic rent for even the cheapest form of acceptable housing. They, therefore, live in makeshift shacks and straw huts. As a result of this the housing needs, particularly for low income families and industrial workers have become enormous and are increasing much more rapidly than the supply of new housing. Unfortunately, the nation does not posses adequate capital resources to rehouse three quarters of the urban population. We can only provide low income housing schemes to a small part of the urban population, but we must endeavour at least to provide them with satisfactory amenities (water, sewerage, transport, electricity etc.). We must also try harder in future to restrain the building of luxury housing for richer members of the community so that our scarce resources will be concentrated as far as possible on the poorer sections of our population.

TABLE 4

NOTIONAL GROUPING OF INCOME GROUPS IN URBAN AREAS OF PAKISTAN

Group Classification	Monthly Income Range in Rs.	% age of total urban households
I. High Income	2,000 & above.	5.4
II. Upper Income	1,500 1,999	
III. Middle Income :		
(*a*) Upper Middle Income	900 1,499	7
(*b*) Middle Income	500 899	15.6
(*c*) Lower Middle Income	300 499	53
IV Lower Income	100 299	19
V. Lowest Income	— 99	

18. It is estimated that so far (since 1947) Government has spent around 130 crores of rupees of Public funds on housing. (This excludes expenditure on utilities and services and on middle and upper income groups and other supporting public and private expenditure). This outlay, however, has not even made a dent on the problems of housing for low income families because of the following reasons:

1. Hasty decisions due to political or social urgency.

2. Immature policies converted into plans and programmes without associating the relevant professional and technical experts.
3. Low priority to operational research and analysis.
4. Lack of appropriate institutional framework.
5. Lack of co-ordination and trained manpower.
6. Shortage of materials, machinery and equipment.
7. Lack of any process of evaluation and feedback.

Korangi, North Karachi, Lahore Township, Mohamadpur, Mirpur, Solashahar, and a number of other so-called colonies, townships, etc. are living proofs of this failure.

19. The problems of 72 per cent of low income urban housholds cannot be tackled by the private sector either. This is not unique to Pakistan. All over the world, the problems of this Group are tackled by the government itself. Even in those countries where private enterprise is highly developed the government cannot suggest to private entrepreneurs to share in this effort as it is a losing proposition. Therefore, 72 per cent of our urban households need direct government attention and care. The private sector, if properly developed and motivated, can perhaps look after the balance of 28 per cent of the urban households, whose problems in any case are not as pressing or urgent as those of the Low Income Groups.

20. The structure and pattern of living of Low Income families shows that hardly 23 per cent of them live independently and the balance have always other relatives and non-relatives with them. This is only partly due to the housing shortage, and to a large extent is due to economic reasons and sociological and cultural patterns of life. Moreover, the immigrants from the rural areas coming to cities for employment do not bring their families with them. The wives and children and other dependents are left behind and partly or wholly transferred to the city in well spaced phases over the years. This is again partly due to socio-economic causes and only partly due to housing shortage.

21. In the prevalent socio-economic conditions the concept of "urban household" as based on common cooking or kitchen facility, is much more of a viable concept than that of "urban family". Accordingly, the concept of "urban households" will be used to assess the prevalent and desirable standards, till such time that the concept of "urban family" begins to be more effective. With this background it is evident that we must try to attack the problem of housing within the broader framework of elimination of poverty, raising the living standards, and improving productivity in general and the production of cheaper dwelling units in particular.

22. If the process of slum formation is analysed critically and carefully it will be found that the problem is rooted not only in physcial but also in socio-economic causes, and as such, it cannot be effectively solved, by what might be called a purely "public works" approach. This approach during the past has resulted in simply transplanting the slums and wastage of scarce resources.

23. Slums house those classes and income groups which generally do not participate effectively and directly in the economic and social life of the city. Most of the slum families are so poor, that even if each family was housed in an independent clean and healthy dwelling unit, it will not have the resources to pay even a nominal rent or maintain the unit and also buy the most essential items of food, clothing and transport. Therefore, programmes of slum clearance without an advance or integrated programme of economic and social development,

are not only bound to fail, but will also create additional problems for the government by increasing the future dependence of the beneficiaries on public resources.

24. Physical structures have no independent existence of their own. People do not live in houses only. The intimate relationship between people's lives, their social and economic levels and potentialities and the real capacity of the local, regional and national economies to effectively cater for their needs determine the content and quality of their living. Where slums exist, we can at best condemn temporary and dangerous dwelling units. We cannot afford to throw away permanent and semi-permanent habitable units. Slum areas must first be carefully classified and then subjected to partial replacement or improvements and an intensive programme of general amelioration of the overall neighbourhood with special attention to drainage, excreta disposal, water supply, light and air as well as provision of a few "lungs" (open spaces with a tree or a little greenery or just a small square or a small plaza) to introduce freshness and variety into the neighbourhood. Except for major replacement of dangerous structures, most slum areas may only require "partial surgery" and a general programme of amelioration and conservation.

25. As yet we have no special organization or institution to look after housing and housing policy. On the provincial and central level, the subject is dealt with by the Departments and the Ministry dealing with Civil Works and Construction. However, the problem is not simply a matter of engineering and construction. We need a central locus for evolving a sound housing policy, converting it into a viable plan and then implementing it. Thus, engineering and construction come into the picture at the implementation stage.

26. The housing problem, in the final analysis has to be tackled at the local level, which consists of local bodies such as Municipalities, Improvement Trusts and Development Authorities. At present they possess neither the resources nor the insight for solving the problem or even attacking it in an elementary manner. At the moment there are no regular or even informal arrangements for cooperation between the public and private sector. In Pakistan construction represents nearly one half of gross investment of which housing and urban development account for a substantial part. The pace and size of development programme are, therefore, heavily influenced by the availability of building resources in materials, labour, management and equipment. Unfortunately we are importing a number of building materials, equipment and fittings. Limitation on the availability of foreign exchange reduces the amount that can be imported thus causing shortage which disrupts building works. Moreover, imported building materials are expensive in comparison with home-produced materials. All these factors tend to increase building costs considerably. There is consequenly great need to expand the domestic production of building materials in order to facilitate the expansion of construction programmes and reduce their costs.

THE STRATEGY

27. The Fourth Plan will adopt a two pronged approach to Physical Planning and Housing; long range preventive and short range curative. This approach is based on two lessons learnt from our past experience in development planning. First that the economic development by itself does not create good living conditions and a functional physical environment. For this reason an increase in *per capita* income does not necessarily mean an automatic improvement in *per capita* welfare. Second, each urban or rural area cannot be planned or developed in isolation. Their development must be regarded in relation to the bigger whole *i.e.* the geographic, cultural, economic and administrative region. Only if this is done, can policy really exploit the locational

option which may be available. The region is the most viable unit for integrating physical planning with economic and social planning. So far our urban growth has been largely concentrated on existing metropolitan areas which have gone well beyond optimum size so far as social costs are concerned. We must, therefore, re-examine our strategy for industrial location to see whether costs could not be reduced by expanding medium sized cities.

28. Many problems in the Physical Planning and Housing Sector, demand an integrated approach with other related sectors. Policies, plans and programmes of water and power, transport and communication and industrial sectors determine the general pattern and distribution of urban and rural communities. It is not possible to have meaningful development of urban and rural communities without effectively relating the distribution of population and facilities for living in urban and rural areas with the growth of economic activities and employment opportunities. The Physical Planning and Housing projects, therefore, should be coordinated with plans and programmes of agriculture, industries, transport and communication, and water and power.

29. The process of economic development will create a number of physical planning problems. For this reason the preventive approach to these must necessarily be a long range one. A perspective of fifty to a hundred years is needed for the five year plans if we are to meet future needs effectively. Between 1970 and the year 2000, our urban population will rise from 22 to 100 million, and we cannot afford to let it grow haphazardly. An imaginative approach to our existing relatively low degree of urbanization should enable us to avoid the problems which more advanced countries have faced during their early period of economic development and rapid urbanization. Cities, industrial clusters, highways, must all be planned on a long range basis to prevent wasteful and frantic efforts usually expended on correcting damages done by short-sightedness.

30. During the past there was a general belief that investment in housing was unproductive and as such it should be kept to he minimum. But experience has shown that besides bestowing various social benefits, housing plays an important role in the economy by providing (a) a livelihood for the sectors engaged in construction or in servicing the building industry (b) a large market for industry and (c) an outlet for investment. Efforts will be made to accelerate housing construction especially in the private sector by means of giving appropriate incentives. The construction industry probably offers the best field in which a large number of relatively unskilled labourers can be employed. Moreover, standardization, prefabrication and mass production can bring about economies in cost of construction, but these are only possible if there is a constent substantial flow of capital investment into construction industry.

31. It will not be possible to cope with the problem of housing by means of cheeply constructed shelter, unless the programme of up-keep, maintenance and modernization of existing housing stock is taken up on a large scale. Therefore, it is proposed to undertake an environmental approach to low-income housing during the Fourth Plan. This approach will consist of the following : (i) Existing housing stock even in slums will be preserved wherever possible. (ii) Major and rapid improvements in the living conditions of slum dwellers will be achieved through well organized programes of environmental improvement. (iii) Programmes for the establishment of viable settlement housed in non-permanent cheeply constructed shelter but with adequate environmental facilities will be undertaken. (iv) Imaginative and efficient management services will be introduced.

32. Women can play an imporant role in urban and rural development incluling housing. But most of the rural migrants come to the cities alone leaving their families behind. This causes a number of physical and social problems. This floating population has no sense of belonging. There is an urgent need to have policies, plans and programmes which will allow these migrants either to bring their families with them or to call them to the urban area wihtin a reasonable period of time. Our cultural heritage, as well as customs and social life should also be kept in view while taking up urban and rural development. At the moment, women are not associated intimately with formulation and implementation of development policies. In case of housing and urban development, their association could prove quite useful. The migrants to urban areas, should be encouraged to have residential plots, on which they could construct a house of their own. The concept of ownership of their houses with appropriate economic opportunities as well as mutual cooperation, could indeed go a long way towards increasing general productivity as well as social development.

33. In rural and urban development, local leaders (religious, social etc.) can also play a useful role. However, in order to utilize them in a proper manner, they will need to be trained properly so that they can participate in the development process as well as impart proper education and leadership.

34. In order to achieve a functional and balanced development, it is necessary to identify the present functional role and status of various metropolitan, urban and rural centres. This indentification could be made within a regional framework. Having identified such a functional relationship it may be desirable to divert some of the functions systematically to smaller towns and rural areas to achieve a more balanced development. Even if such a policy of decentralization is not followed, such an approach will assist with a proper locational yardstick as well as more functional and harmonious development.

MAJOR POLICIES

35. The overall objective is to meet the housing needs of the people in a safe and healthy physical environment. In view of the limited resources, the immediate concern will be to maximise the effectiveness of programmes by carefully determining priorities and by giving special attention to co-ordination of work with other sectors. To achieve these objectives the following lines of approach are to be adopted during the Fourth Plan period :

(i) In order to relate the distribution of population and facilities for living in urban and rural communities with the growth of economic activity and employment opportunities, physical planning and housing projects should be closely co-ordinated with plans and programmes of agriculture, industries, transportation and communication and water and power. A concerted effort should be made to reduce the socio-economic and technological gap between the city and the village.

(ii) Special effort should be made either to reduce the distance between the place of work and the place of living of urban workers or to reduce the travel time and costs.

(iii) Intensive and extensive research for utilization of local as well as new building materials needs to be conducted. New uses of old building materials should be explored. Efforts should be made towards partial machanization of the building industry and the introduction of light pre-fabrication for rapid production of low cost housing units.

In addition research in environmental sanitation including air and water pollution needs to be undertaken and results enforced through appropriate standards and legislation.

(iv) Apropriate legislation for physical planning and housing needs to be enacted in order to enforce the discipline of the development plans as well as clarify the exact areas and distribution of responsibility for housing.

(v) The sectoral policies, plans and programmes relate intimately to local planning and local government. The present arrangements for these responsibilities need to be carefully reviewed and brought in line with modern practices in keeping with our national needs. Municipal boundaries need to be expanded in such a manner as to cover all of the potential urban area at least for the coming 10—15 years.

(vi) In order to achieve a reasonable amount of success in the implementation of the sectoral policies, plans and programmes, it is essential that independent departments of physical planning be established in all the provinces. This can be done by regrouping the existing facilities and adding essential professional staff.

(vii) Collection of data, evaluation of needs and conditions, planning and housing surveys and a re-appraisal of building codes and specifications should receive priority.

(viii) Due to paucity of resources, the programme of new government offices and buildings should meet only the most essential needs during the plan period according to functional, economical and sound standards and specification and strive to use local materials. Vertical construction should be encouraged instead of present trends towards horizontal building.

(ix) In order to provide essential manpower for the sectoral programme, it is essential that development and strengthening of education, training and research facilities should take place along the following lines :—

(a) Setting up of Centres for Regional and Urban Development at Karachi and Dacca.

(b) Development of Building Trade Schools.

(c) Expansion of education and training facilities in Public Health Engineering.

(d) Expansion of Building and Housing Research Centres at Lahore, Dacca and establishment of new centres at Karachi and Peshawar.

(e) Expansion of educational facilities in Architecture and Urban Planning.

(f) Provision of material incentives and status to professional Manpower, Researchers and Scholars, as well as safeguarding their professional status through registration etc.

(x) Efforts should be made for integration of Physical Planning with Economic and Social Planning on urban, regional and national level so as to achieve a balanced development.

(xi) Special emphasis should be given to Rural Development and Physical Planning problems and needs of villages.

(xii) Special priorities should be given to Urban, Metropolitan and Regional Development plans as well as Transportation and Traffic Planning Studies and Regional Planning for Tourism for selected areas.

(xiii) In the field of Housing, special efforts should be made towards slum improvement and clearance, low cost housing and industrial workers housing by adopting environmental approach to low income housing.

(xiv) Greater emphasis should be placed in providing water, sewerage, drainage and sanitation facilities in selected large as well as growing urban centres.

(xv) Within the framework of Rural Development, priority should be given to the programmes of rural water and sanitation.

(xvi) Efforts should be made to encourage tourism as means and part of economic growth. For this purpose places of tourist attraction and necessary supporting facilities should be developed and also special efforts should be made to encourage foreign tourists to visit Pakistan.

(xvii) Special efforts should be made to improve urban and metropolitan transport system in selected cities by means of widening roads and streets, provision of parking spaces and providing better facilities for mass transport. In case of villages and small towns bicycle transportation should be encouraged and transportation networks should be provided for the same.

(xviii) National, Regional and Local parks as well as play grounds should be developed for providing outdoor recreation to the peopie in general and youth in particular.

(xix) In order to reduce government expenditure on the development of Islamabad, it is necessary to strengthen the economic base of Isiamabad within the context of Federal Capital Region and the possibility of installing a rapid transit system within the region needs to be explored.

(xx) Special credit facilities, tax incentives and other legal and institutional framework should be provided to encourage housing in the private sector to cater for lower and middle income groups.

(xxi) The time has come to revamp the housing policy and ensure that the basic needs of the people are met. The first essential is to scrutinise loan applications strictly and see to it that no person or family already owning a house gets help to have another. Second, the Rent Control Act should be revised, and a simple and equitable formula of fixing rents should be laid down. Third, there ought to be some standardisation of housing so that the present trend towards huge buildings can be checked and houses stop becoming status symbols. Low-cost housing meanwhile deserves the greatest priority, and instead of laying out plans for vast colonies, it will perhaps be wiser to think of flats that can be sold on a "hire purchase basis."

(xvii) International tourism, which is developing with rising incomes, changing social values and standards, increasing leisure time and improved transportation facilities, offers a unique opportunity for Pakistan to reduce and even to close the gap in our balance of payments, and to create more employment opportunities in the economy. At the same

time, and for similar reasons, domestic tourism and recreational needs are also increasing. It should be recognized that international tourism and domestic tourism are closely related to each other; and in order to achieve a desirable development of tourism, they need to be considered simultaneously. If we are to take advantage of the expanding volume of international tourism the presence of natural and man made resources of tourism is essential; but their mere presence is not sufficient. The "intersectoral" character of tourism requires its integration into the overall economic development process, the collaboration of the public and private sectors and the co-ordination of public sector agencies in order to attain and sustain its development. The development of tourism is not a phenomenon independent of economic and social growth; it is an integral part of it, and it can only be promoted through comprehensive planning.

The foregoing considerations show the complexity of the task of preservation and creation of a desirable environment for the development of tourism. Development efforts, to be effective, call for an appropriate physical development strategy. The first strategic decision to be taken, in order to achieve fast and economical development of tourism, is the concentration of investments on physical facilities in certain regions of the country with high development priority, and the establishment of user-oriented (foot-loose) recreational facilities functioning along with the resource-oriented facilities in these regions. In other words, it is the concentration of efforts in the most promising and easily accessible areas, which are most likely to attract large numbers of tourists and where development efforts will yield results in a shorter time. Such an approach creates economies of scale and external economies; therefore, it is more economical than spreading the investments over all regions of the country. Moreover, it facilitates providing a variety of services in chosen areas rather than dispersed single facilities, which is important in attracting more tourists and keeping them longer in the area.

In the selection of the areas for immediate development, those regions of the country which can be identified as a part of an "international tourist region" should be given priority. Priority should also be given to those regions which have a high development potential for tourism in terms of resources and accessibility. Existing tourist facilities and infrastructure should be taken into account since these can reduce the cost and the required time for development. Priority setting exercise should be based on careful assessment of the development potential of the regions and comparative advantages.

Setting priorities of the investment projects in various sectors of the economy for the development of tourism, as well as in the tourism sector, is also a major strategical decision which requires careful timing and effective co-ordination. Timing and co-ordination of these investments are important because of the intersectoral character of tourism. Tourism facilities can properly function only if a number of facilities and services are provided simultaneously. Several projects in tourism and other sectors should be developed at the same time to support each other. The need is not only for accommodation, entertainment or sporting facilities, but for a set of these facilities and services, varying in composition and standards to create the "living environment" for the tourists.

Another strategical decision for the physical development of tourism concerns the kinds of services to be developed. The advisable strategy is to provide several alternatives of recreation and entertainment in different standards,

in order to attract large groups of tourists of varying tastes and from different income group. Additional attractions to be prime endowment of the area can extend the stay of the tourists and increase their average daily spending and also attract more people and lengthen the tourist season. These efforts, however, should be carefully planned, otherwise their outcome may do more harm than good to the indigenous qualities of the environment. The needed skilled manpower for the operation of these varieties of facilities should also be available.

It appears from the foregoing that the "affinity" between tourism and environment requires careful planning of the environment for tourism development. In this respect, physical planning is instrumental not only in achieving the desirable pattern of development, but also in securing the conservation of natural and man-made tourism resources. Furthermore, since tourism development is dependent on the services to be provided by other sectors of the economy, physical planning is needed to ensure spatial co-ordination of their investments and existing facilities.

(xxiii) Policies for Metropolitan and Urban Development.

There is difference of opinion about policies for urban and metropolitan development. Some experts feel that the growth of large urban centres ought to be discouraged and all efforts should be made for finding new urban centres or for promoting the growth of medium sized towns. However, others feel that it is not a good idea to discourage the growth of large urban centres. Their feeling is that our large urban centres and metropolitan areas were never adequately planned and accordingly some of the problems of transportation, facilities and services and housing had risen due to our faulty planning. By simply putting negative control on the growth of large cities we might obstruct our economic growth. Therefore, there is *an urgent need for a clear-cut national policy for industrial and urban development*. In case the Government decided that instead of having larger cities, we should have more cities or we should discover new growth poles or we should try to expand some of the medium sized towns, then the national development policies will have to be geared to this approach and necessary administrative and legislative measures will have to be taken. Some experts feel that it was not correct to suggest that major emphasis should be on rural areas and rural development. Their feeling is that in Pakistan urbanization was taking place at an accelerated rate and as such, unless and until some priority was given to urban development for the provision of essential services, facilities, amenities and general infra-structure, the living conditions will deteriorate and national problems will begin to multiply.

It is also necessary that attention should be given to the creation of *enough job opportunities in the urban areas* ;as at the moment, most of our urban areas were filled with jobless and temporarily employed slums dwellers. As far as urban and metropolitan development is concerned, we will need to determine the most suitable pattern of urban development, which should achieve the divergent goals of attaining high rate of economic growth as well as development of depressed regions of Pakistan. It is, therefore, recommended that during the Fourth Plan period these issues should be carefully studied and operational and policy oriented research should be carried out, which should assist the decision makers, in making correct decisions. Unless and until these decisions were based on scientific research, there was a danger that wrong decisions may be made and we may suffer rather heavily in the short as well as long run.

It has also been found that within urban and metropolitan areas there were dramatic disparities and marginality of lower income groups. A very small proportion of the total urban population, enjoyed very high facilities and services, while a very large part of the urban population in many cases was living in sub human conditions or were cases of severe marginality. This fact may be illustrated by taking a case in Lahore ; in the old town of Lahore occupancy rate was 4-1/2 persons per room, in Krishan Nagar it was 4 persons per room, and in Civil Lines, it was not more than 1 person per room.

It will be very difficult to prevent the growth of cities and to stick to an idea of continued rural existence or expansion. It is recommended that we should devise appropriate policies and programmes for a harmonious social change as well a transition from a pre-dominently rural culture to a pre-dominently industrial *cum* urban culture. We should ensure that there is not a progressive dehumanization of people and that they should not only participate in the development process but they should have maximum access to various units of government, on all levels.

It is also necessary that experimental projects for introducing various types of coopertives for urban development and urban housing should also be tried.

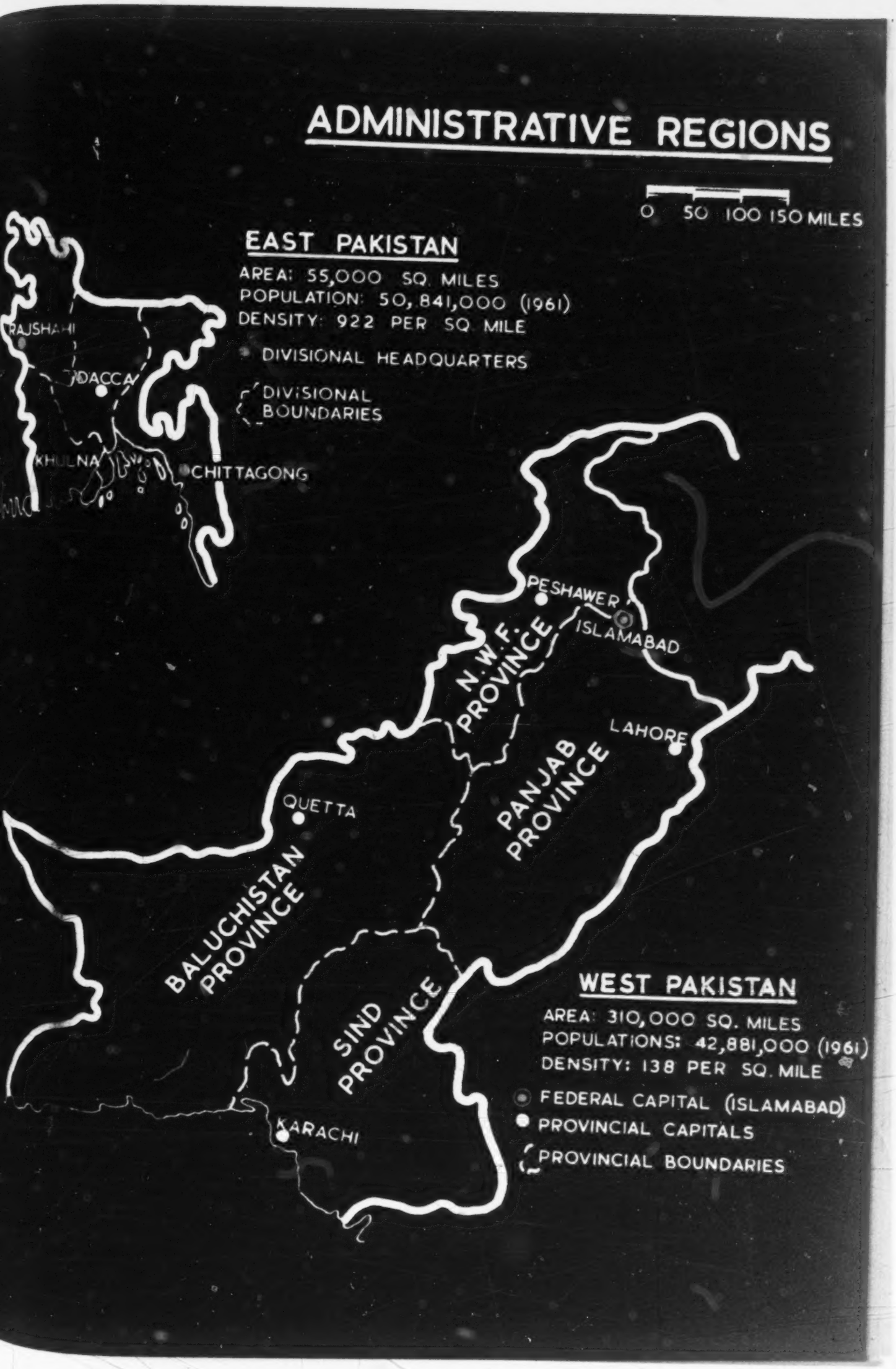
At the moment enough attention is not given, to metropolitan and urban administration. Too many institutions and agencies were responsible for various sectors of development within urban and metropolitan area. It is, therefore, essential that new types of urban and metropolitan management, as suited to our needs, should be promoted. This might require creation of new institutions for metropolitan and urban planning and development. The Planning Commission, with the assistance of related institutions and universities, should carry out some research in this vital area.

We should also consider a general educational programme for preparing people for urban life. This should be tied to promotion of civics as well as participation in urban management. The problems and needs of urban and rural areas should not be considered within a single sector but should be taken up on multi-sector level. In this important approach, the need for privacy as well as general community recreation should be fully recognized and more attention should be given to provision and promotion of recreation in urban areas.

The urban and rural development problems of East Pakistan are rather intensive and demanded special priority attention.

DEVELOPMENT PROGRAMME

36. The Physical Planning and Housing Sector allocation in the Fourth Plan amounts to Rs. 3,795 million in the Public Sector and Rs. 5,000 million in the Private Sector. The Public Sector allocation for East, West and Centre are Rs. 1,900, Rs. 1,000 and Rs. 895 million respectively. The Region-wise distribution of Private Sector allocation is Rs. 1,850 and Rs. 3,150 million for East and West Pakistan respectively. The Development Programe for Physical Planning and Housing Sector has been framed keeping in view the needs, priorities and problems existing in both the Wings of Pakistan. The East Pakistan Programme relate to its four Divisions and the West Pakistan Programme include of the four newly created Provinces of Baluchistan, Sind, N.W.F.P. and Punjab as shown in the attached map. The


ADMINISTRATIVE REGIONS
0 50 100 150 MILES
EAST PAKISTAN
AREA: 55,000 SQ. MILES
POPULATION: 50,841,000 (1961)
DENSITY: 922 PER SQ. MILE
DIVISIONAL HEADQUARTERS
DIVISIONAL BOUNDARIES
RAJSHAHI
DACCA
KHULNA
CHITTAGONG
PESHAWER
ISLAMABAD
N.W.F. PROVINCE
LAHORE
PANJAB PROVINCE
QUETTA
BALUCHISTAN PROVINCE
SIND PROVINCE
KARACHI
WEST PAKISTAN
AREA: 310,000 SQ. MILES
POPULATIONS: 42,881,000 (1961)
DENSITY: 138 PER SQ. MILE
FEDERAL CAPITAL (ISLAMABAD)
PROVINCIAL CAPITALS
PROVINCIAL BOUNDARIES

programme is briefly described in the following paragraphs under various sub-sectors along with specific policies in each sub-sector :

I. BASIC DEVELOPMENT

37. The need to develop an organizational framework is urgent. The programme in this sector is complex and diverse in character. At the centre, six different Ministries are concerned with the implementation of programme for Housing and Physical Planning. At the local level there are several hundred Municipal Authorities and Cantonment Boards, as well as a number of Improvement Trusts, and Development Authorities. One reason for the poor performance in the past has been that the work has not been directed by a single agency at the Central and Provincial level. It is, therefore, recommended that autonomous Departments of Physical Planning in the Provincial Governments be created immediately. The proposed department should have sections dealing with Regional and Urban Planning, Architecture and Housing. At the Centre, the existing Rehabilitation and Works Division will have to be strengthened and renamed as Works and Housing Division so as to enable it to perform the much needed functions of Co-ordination at the national level. The demarcation of local areas between cantonment boards and municipal authorities should be rationalised. It is also recommended that Government sponsored Housing Corporations be initiated at Karachi, Peshawar, Lahore and Dacca. These corporations should be assigned responsibility for all income groups ; while the lower income group problem should be tackled on a subsidised basis and the problem of middle and upper income groups should be handled with the co-operation of the private sector. These corporations should maintain a close working relationship with the Municipalities, Trust, and Development Authorities. They should provide funds for land acquisition and development and, where necessary, also arrange for land acquisition and development themselves.

38. The Housing Corporation should have special wings or departments for slum improvement and should render financial and technical assistance to municipalities for this task. Corporations will, in some cases be able to take up house construction for upper and middle income groups on a commercial basis, and the profits can be used to subsidize slum improvement. The corporations should be the main forum for all types of housing and they should have separate units and facilities for developing and promoting "Cooperative Housing".

39. There is an urgent need for developing local building materials, improvement in the traditional methods of construction and introduction of new construction techniques so as to reduce the cost of construction. Therefore, the two Building and Housing Research Centres at Lahore and Dacca will be strengthened and in addition new centres at Karachi and Peshawar would be established. The existing Building Research Centres at Dacca and Lahore have not so far made any impact on our building construction programme. There are a variety of reasons for this failure, one being the low priority accorded to them by the Provincial Governments and the other is their present location with the Provincial P.W.Ds. Moreover, the research activities of these two Research Centres are not guided in a systematic manner. It is, therefore, recommended that Provincial Housing and Building Research Councils should be established in both the Wings of Pakistan. The membership of the Council will comprise of eminent people from Universities and professional organizations (from the Public and Private Sector). These Councils will lay down the objectives, approve the programme of research and carry out an

ongoing evaluation of the activities of the Centres. Their attachment to the Provincial Works and Housing Councils will be most useful and the proposed Housing Corporation can then use them for specific operational research. Moreover, Cement Industries will be approached to set up a research institute of their own which will carry out research on the economical use of cement in the existing methods of construction as well as introduction of modern techniques of construction such as prefabrication etc. Our Urban and Rural Planning and research programmes have not been able to make much headway because of serious problems of recruitment and retention of trained manpower. For example, the Building and Housing Research Stations suffer from a chronic staff shortage due to lack of incentives and attractive salaries. Provincial Governments are not properly equipped to offer training for regional and urban planning. The following steps are, therefore, necessary to strengthen research and training facilities :

(a) the Central Government should be involved directly in research initiation, supervision and co-ordination ;

(b) the salary scales and incentives for research and planning jobs should be improved to attract competent professionals ;

(c) appropriate status, powers and decision making powers should be accorded to professional experts ; and

(d) Centres for Regional and Urban Development (Training and Research) should be started in Karachi and Dacca.

40. For guiding the growth of urban centres in a systematic manner the new projects for the preparation of outline development plans and urban development plans will be taken in hand and efforts will be made for speedy completion of the on-going projects. The programme for educational and training of professional, sub-professional and skilled manpower such as Architects, Physical Planners, craftsmen, masons and carpenters will be strengthened. Efforts will also be made to set up data banks for Physical Planning and Housing in the Provincial Governments so as to facilitate research on urbanization, urban development and new towns.

41. Regional planning and administration are now the accepted approaches for the implementation of national development goals. The Fourth Five-Year Plan emphasizes this approach even more strongly, not only as a means of reducing regional disparities, but also as a means of rationalizing both social as well as economic investment and a means of mobilizing the concrete but often latent resources and aspirations of the different regions. In so doing it is expected that a greater total development input and a faster rate of social progress may be achieved. It is, therefore, proposed to establish Centres for Regional and Urban Development. These Centres will be Government sponsored autonomous corporations and their policy will be guided by the National Planning Commission, the International Advisory Panel and their Board of Trustees. These will be controlled however, by their own Board of Trustees. These will be financed by central government grants reserved within the Plan allocations for five year period. They will also be authorized to receive international and bi-lateral aid, grants-in-aid from the private sector as well as grants from national and foreign foundations. The Govt.'s contribution will be paid in lump sum to the Trust out of the funds reserved in Fourth Plan and subsequent plan period.

42. The Centres will predominently serve national needs in research, training and extension. These will carry out specific projects and programmes

in regional development research and training on behalf of the National Planning Commission, the Provincial and Local Governments and other National and International agencies as well as Semi Public and Private Sector. These Centres will further co-operate with national, regional and local authorities in evaluating completed regional development projects and assessing the new potentials created by such undertakings. Finally, the Centres will undertake regional and urban development planning on behalf of governmental authorities and other entities lacking the required organization and skills. The Centres will co-operate with institutions of higher education, professional and voluntary organizations, and interested industrial, financial and commercial groups in Pakistan in disseminating the results of their work with a view to an early practical application. The first Centre will be located at Karachi with the help of U.N. The second Centre will be located at Dacca by bilateral assistance which will be negotiated with any interested country in due course of time.

43. In the Central programme a modest allocation has also been made specifically for carrying out general sectoral research. Under this programme a number of action oriented research studies will be carried out. One of the research projects called Regional and Urban Development Project is meant for carrying out feasibility study, for the initiation of the Centres for Regional and Urban Development. This project will also be carrying out research programme on the following subjects ; (a) Urbanization and industrialization patterns in Pakistan (b) Identification of growth poles in Pakistan (c) Regionalizational or Regional Disagregation of the Pakistan National Plan. (d) Data collection and processng system for regional development in Pakistan. A Joint Research Projector the study of alternate models of regional development of Peshawar Division is being carried out by the Peshawar University. UNICEF would also provide assistance to this project for carrying out research for the integration of youth and children in the regional development process. This will be a pilot project for UNICEF as well as this new approach has been matured by the UNICEF Representative in Pakistan. Another Project called Joint Research Project for Slum Improvement will be carried out by the Pakistani Universities in collaboration with the Free University of Amsterdam. The objective of this research project is to conduct intensive and extensive research in Slum Areas in East and West Pakistan and suggest concrete measures for slum improvements. The implementation of the finding will be done by Municipalities and other local and provincial bodies. Yet another Joint Research Project called " Implementation of Development Policies and Plans for Karachi Metropolitan Region " will be initiated with the help and support of International Association for Metropolitan Research and Development at Toronto (Canada). The Project aims at following objectives :—

(a) A comprehensive study identifying and analysing the factors to enhance or impede policy and Plan implementations in the Karachi Metropolitan Region, which will be the basis for recommendations designed to achieve planned goals.

(b) A methodology for providing a focal point of co-ordination among people involved in the formulation, adoption and implementation of development policies and Plans.

44. In order to sustain the institutional and organizational improvements as well as to carry out research in the field of Physical Planning, Housing and Building Construction under the Provincial and Central Governments, the Plan provides Rs. 70 million for basic development projects.

2. REGIONAL PLANNING AND DEVELOPMENT

(a) *Regional Planning*

45. Regional and local governments need to be substantially strengthened. The municipalities are weak. Their jurisdiction is limited because large areas of the cities are under independent Cantonment Boards and Development Authorities. Regional level government which is at the moment embodied in the office of the Divisional Commissioner, is not very effective, as all provincial departments have separate and autonomous regional offices. This system of regional and local government hinders the development of systematic regional and urban planning. The role of the Commissioner and Deputy Commissioner as well as of the local government officers will need to be carefully examined and rationalized.

46. The most reasonable and viable unit for integrating physical planning with economic and social planning, is the geographic region. Even limited area urban planning is quite ineffective without a general regional plan. Therefore, the issue to be taken up on a priority basis, is to develop a strong regional and urban planning programme as part of the national and provincial plans. But in our enthusiasm for this approach, we cannot launch a large number of projects, as we are very short of trained manpower. Even if personnel with professional degrees were available, their lack of experience would create problems. Therefore, a Centre for Regional and Urban Planning with facilities for in-service training and research must be established soon for which United Nations assistance is available.

47. We also lack the legal and administrative tools for implementing regional plans. Steps, therefore, need to be taken to update and create appropriate physical planning legislation. Appropriate Housing Acts also need to be enacted as at the moment there is no clear cut definition of responsibility in this field.

The factors discussed above point to the adoption of two policies:

(a) Regional and Urban Development Programmes need to be spelled out more concretely within the national and provincial context with some examination of possibilities for decentralization and dispersal of economic activities. We should select potential growth poles, from among the existing smaller and medium sized urban centres and encourage their growth. Attention must also be given to rural development and needs of villages;

(b) Regional development is closely linked with industrial location, transport, water and power development and must be tackled within a broad framework. Physical Planning should embrace the whole physical *infra-structure* for economic development.

48. A modest start towards regional planning has already been made by the Planning Commission which has launched three pilot projects in cooperation with the Provincial Government to test various approaches. The Commission has three Pilot Projects. The first one is for "Location and Planning of cities in East Pakistan". This covers the whole of East Pakistan and is aided by the United Nations. The second project is the "Regional Development Plan for the Peshawar Valley". This has attracted the attention and interest of several international institutions, and bilateral aid for the project is under negotiation. Very recently, the Commission launched the third project of the series, the "Development Plan for Karachi Metropolitan Region". This is also aided by the United Nations.

49. These three National Pilots Projects will provide experience and techniques for regional development planning at various level. The first will provide experience on province-wide level, the second is a large division of a Province, and the third covers our biggest metropolitan region. All three projects will be carried over to the Fourth Five-year Plan. These Projects are being executed by the Provincial Governments with close professional and policy guidance from the Planning Commission. In order to insulate the projects from routine treatment and bureaucratic red-tape, the Commission has established a High Level Policy Advisory and Steering Committee which meets every six months to review progress. These are expected to be completed during the Fourth Plan period. On the basis of the experience gained from these, regional planning can be pursued and developed on a more systematic basis during the Fifth and subsequent Plan periods. In addition, new projects for the preparation of Regional Plans for lower Sind area (including Tharparkar District), Moenjodaro, Baluchistan, D. I. Khan, Lahore and Chittagong Hill Tracts will be undertaken for which the necessary resources have been allocated under the Central Programme and Provincial Programme. For the ongoing as well as the new Regional Planning projects an allocation of Rs. 25 million has been made in the Fourth Plan.

(b) *Regional Development*

50. Quite a few regions in East and West Pakistan are so un-developed or backward that it is essential not only to prepare regional development plan for these regions, but also to launch special programmes for regional development. In most of these regions, it will be necessary to systematically develop regional centres or growth poles by picking up an existing area (rural or urban) or small town or city, with latent or existing potentialities, and then developing it as a regional centre or growth pole. This will mean purchase of land, land planning and development, construction of essential services, buildings and structures (by public or private sector) and then leasing or selling these areas and structures to respective government departments or entrepreneurs or both. This will not only promote the growth and development of regional centres or growth poles, but will also create vast employment opportunities during planning and construction, as well as afterwards when the regional centre or growth poles begins to function. Such a programme is indeed necessary for North Bengal, N.W.F.P. (D. I. Khan, Peshawar and Malakand Divisions), Baluchistan and Lower Sind regions. The proposed Regional plans will take sometime, before these are ready, and can be implemented. As an interim measure a modest programme of regional development can be launched. However, it cannot be initiated without appropriate institutional arrangements, and suitable organizations for its planning, implementation and supervision. One reasonable method would be to create Regional Development Boards for these Regions, under the Chairmanships of Development Commissioners. The Boards should not only be responsible for preparation and implementation of the Regional plans, but should be made responsible for this Interim-Regional Development programme. The programme could be executed through the existing agencies of the government in cooperation with the private sector. A modest programme of Rs. 50 million for North Bengal is provided in the Plan. As soon as the Regional Plans for NWFP, Baluchistan and Lower Sind are ready, these will have to be reviewed and discussed by all concerned, and then detailed programmes for their implementation will have to be prepared. The Capital resources required for implementing these Propects would be met from other related sectors. Besides these new Regional Plans and the Interim programme of regional development, the three on-going National Pilot Projects as well as the new Pilot

Projecto s to be undertaken during the Fourth Plan will also accelerate the whole effort for regional planning and development.

3. RURAL DEVELOPMENT

51. The rural population is faced with serious problems of transportation, drainage, water supply and sanitation. In addition, there is a serious shortage of schools and a number of other amenities and facilities in the rural areas. There is, therefore, significant gap between rural and urban areas. In order to improve the living conditions in rural areas and to reduce the gap between the rural and urban areas a comprehensive programme for rural development needs to be chalked out, utilizing the Comilla approach as well as other experiences gained in East and West Pakistan. However, before any such programme can be launched, operational and action-oriented research will have to be carried out. Such research could be conducted by universities and other institutions which may have either the facilities or interest for such type of research. Moreover, it will be necessary to establish a hierachy of villages according to their functions, so that various essential facilities could be located according to the functional pattern of the villages. In such a system, certain facilities, which could not be located in every village could be located in a central village which may be linked with smaller villages. Thus these facilities may be available to all the villages through an efficient system of transportation.

52. The Fourth Plan programme for Rural Development is quite substantial but it is dispersed over a number of sectors such as : Agriculture, Water, Power, Transport and Communication, Education, Health etc. In addition, the Rural Works Programme will make a significant impact on certain aspect of rural life. However, such efforts will not bring about comprehensive rural development all by itself because rural development is intimately linked with urban development and as such a systematic approach for Regional Planning and Development will have to be adopted during the Fourth Plan. Within the framework of such an approach, comprehensive rural and urban development plans and programmes should be prepared and implemented which will help in improving the quality of life of villagers.

53. As the Physical Planning and Housing Sector only deals with rural watersupply and sanitation and some marginal work for village planning and housing, therefore these programmes are included in the sub-sector of Regional Planning and Development, Housing and Community Services and Utilities. Based on needs, priorities and a number of other consideration, adequate resources have been allocated for rural areas under the related sub-sector of the Physical Planning and Housing Sector.

4. HOUSING

54. In order to tackle the housing problem described earlier, we need to make some new departure. Housing policies, plans and implementation first of all should be delinked from the P.W.Ds. as well as from the general heavy reliance on the public sector. The housing problem must be viewed within the framework of :—

(i) National socio-economic problems and goals.

(ii) Building industry, its status, potentialities and problems.

(iii) National programme of Building and Housing Research preferably within the limits of local material and local potentialities.

(iv) A rational and systematic distribution of responsibilities, between the public and private sectors.

55. The public Sector Programme for housing during the Fourth Plan wil be limited to the essential needs of the lowest income groups, destituted and public servants for which an allocation of Rs. 999 million has been made in the Plan. The programme for middle and upper income groups will be transferred to the private sector. Each provincial government will be encouraged to set up an autonomous Housing Corporation which will cater for both the public and private sectors. In present urban conditions and with present designs, programmes for government financed low income housing seem to involve either a large subsidy to a fortunate few or they really provide housing for middle income groups. If the bottom seven-tenths of the population are to be helped, designs will be needed for housing units which cost less than 2,000 rupees, or the help will have to be concentrated initially on environmental improvement, site preparation, better utilities and transport. The Public Sector Housing Programme can be grouped under following categories ; (a) Rural Housing (b) Low Cost Housing, (c) Industrial Works Housing, and (d) Public Servants Housing. The programmes for each of these are described below:

(a) *Rural Housing*

56. The rural population is the poorest sector of our population, and their housing facilities and amenities are miserable. In 1970 the rural population will be about 111 million, living in 101,000 villages. Their housing is mostly self-constructed and consists largely of mud or bamboo huts. These houses have to be reconstructed frequently because they are built of flimsy materials and do not stand up to severe weather for very long. The available resources do not permit embarking on a house building programme that could make an appreciable impact on the problem. But a beginning can be and must be made with intensive research to improve the quality of building materials and designs. Only by finding ways of building better houses at lesser cost can we hope to move towards a solution. In Chittagong District, an experimental programme for self-help housing has been successfully launched with the assistance of CARE. This programme will now be expanded in other selected areas and it is estimated that about 24,000 rural housing units would be constructed in East Pakistan during the Fourth Plan. The self-help techniques so far used would be further improved upon so that people in the villages could help each other in building their houses on a community participation basis rather than each family building its own house. The houses to be built under this programme would cost about Rs. 1,200 per house which is much cheeper than those built in urban areas and are strong enough to stand up to severe weather. For this programme a sum of Rs. 30.0 million has been allocated which include assistance to be provided by CARE through various doners.

57. In West Pakistan pilot project for rural housing will be initiated so as to improve the quality of building materials and designs as well as to introduce a self-help approach to house construction in rural areas. In order to initiate the pilot projects for carrying out necessary research and experimentation, a modest allocation of Rs. 5 million has been made in the Fourth Plan.

(b) *Low Cost Housing*

58. The problem of housing for low income group constituting 72% of the total urban families is apparently insoluble if viewed by traditional concepts of completing a dwelling of relatively high standard before moving into it. Moreover, our past experience with slum clearance has been rather costly. The

slum dwellers, when moved to new subsidized houses, either did not properly clear their payments or made shady deals with other parties and sold the houses. Besides, the real level of living of these residents, after moving to these new colonies, deteriorated as they had to bear heavy transportation costs. Originally they had built their jhuggis much nearer to the places of work. We must abandon this "public works approach" of bulldozing the jhuggis and carting the residents far away from their work to government built quarters. New approaches may be developed along the following lines for which an allocation of Rs. 480.00 million has been made in the Plan:—

(a) Possibilities of improvement of slums rather than their clearance should be explored. With moderate aid such settlements could contribute measurably to improving the level of living. A recent study carried out for Azam Basti at Karachi indicates that slums cannot be viewed alone for their appearance but must be seen rather by the opportunities they afford settlers to improve their living condition and develop themselves. Particularly important to motivation to improve is a legal title to a plot of land. Provision of certain essential facilities such as water, electricity, sewerage, dispensary, school etc. can go a long way in improving the living conditions of slum dwellers. But perhaps more important for the long range is the proper layout of the land for urban development. Buildings can be replaced one by one in future decades, but property lines and streets normally exist for centuries. Unless legislative and technical means are organized to complement the initiative of slum dwellers, orderly and steady improvement of living conditions probably cannot occur.

(b) When clearance is essential, the dwellers should be guaranteed work opportunities near their new houses. Where the number to be shifted is very large, possibilities of aggregating these dwellers from various areas into an urban centre which can offer job opportunities should be examined.

(c) Instead of allotting built houses at subsidized rates, possibilities of giving a subsidized plot or only a partly built house, or encouraging a self-help housing programme or forming a housing cooperative should be encouraged.

(d) Provision of flush tollets and house to house connection may be phased out till such time that residents can afford these. Community taps and traditional excreta disposal practices may be improved upon.

59. The above mentioned approaches indicate that housing should not be provided at government expense for the lowest income group. Instead of providing built houses, the government should concentrate its efforts on open plot development and providing some essential building materials. This typifies the developmental approach to the problem. The self-help feature of the device is itself a cultivator of human skills which can be employed later in other ways in the cause of national development. The device is also developmental in conception in that it provides a relatively efficient, inexpensive and speedy method of satisfying conditions pre-requisite to transforming squatters or slum dwellers into immediate producers, as opposed to investment of public capital in much costlier permanent structures long before the economy can afford them.

60. It is also urgent to exercise economy of land and promote vertical construction instead of the horizontal living prevalent today. Properly planned and

and designed, a fairly good two bed-room house with related facilities can be built on a 200 sq. yds. plot. We must conserve land by reducing plot sizes, and build with local materials in a functional manner. It is proposed to limit the maximum plot size in the public sector to 400 sq. yds. The size of private housing can be influenced by making property tax sharply progressive in luxury housing. Immediate studies should be taken up by the provincial government for vertical construction and introduction of light pre-fabrication, particularly in East Pakistan.

(c) *Industrial Workers Housing*

61. The housing needs of industrial workers are enormous and are increasing rapidly. Therefore, provision of cheap and functional housing for industrial workers needs immediate attention. Moreover, with the recent increase in wages of industrial workers there is an urgent need of channelling as much as possible of increased industrial wages into capital savings rather than consumer goods. Government with its limited capital resources cannot afford to allocate substantial funds merely for the construction of housing for the industrial worker. However, if the desire for better shelter is used as a motivation for increased savings of industrial workers, thereby broadening and increasing the base of capital formation, then it is justified that Government should initiate and encourage programme by giving modest subsidy and asking the industrialists to assist in all possible ways in making the programme a success. On the basis of this approach an experimental scheme is being launched at the Sind Industrial Trading Estate at Karachi where more than 600 acres of land has been reserved for residential purposes for a long time. Similar Programme will also be initiated at Tongi in Dacca. Policy issues related to financing and management still need to be decided upon. It is proposed that pilot projects may be initiated immediately at Karachi and Dacca and then later on in other industrial centres. These projects of Industrial Workers' Housing may be financed by a 5 per cent payroll levy on entrepreneurs. Entrepreneurs who do not want to contribute will have the option of building houses for their workers (of standards prescribed by Government). The Government will also need to subscribe to this special fund as the 5 per cent entrepreneur's contribution will not be enough. Therefore, a sum of Rs. 140.00 million has been provided in the Central Programme as a government contribution towards launching Industrial Workers Housing Programme during the Fourth Plan.

62. In order to implement the programme for industrial workers' housing, Central Labour Division is preparing a Special Legislation for promulgation on a national level. As soon as the legislation is promulgated, the Workers' Housing Fund will be created with the help of this fund and under the supervision of the Central Labour Division Pilot Projects for Industrial Workers Housing would be undertaken in the major industrial centres of Pakistan. In the first stage, industrial workers' housing will have to be built on a rental basis as workers will have little capital of their own to contribute, but in the long run it would be desirable to promote ownership amongst the more prosperous workers rather than rental housing from which they can be evicted when their jobs terminate. If there were a payroll levy system to provide workers with pensions, they could then borrow on the security of these funds to make down-payments for a house.

(d) *Public Servants Housing*

63. The problem of Public Servants Housing is progressively becoming more intricate and serious because the housing stock available with the government is hardly sufficient to meet 20 to 25 per cent of the total needs.

64. At the moment, the general policy for public servants housing is neither clear not systematic. Only a small section of public servants are provided with houses by the government at 7½ per cent of their salary. As the rents of houses in the open market are quite high, therefore, the ones who do not get government housing, are deprived of this substantial subsidy. This promotes discrimination and frustration. In order to give equal and fair treatment to all the public servants, it is recommended that as incase of autonomous organizations or private enterprises, the central, provincial and local governments should take the responsibility of providing residential facility to all its employees. This, however, does not mean that government should construct houses for all the public servants. But instead it is proposed that government should give reasonable amount of housing allowance to those public servants who are not provided with the government owned or requisitioned residential accommodation. However, on account of the acute housing shortage existing in the country the houses required for the low income public servants are just not available in the open market, therefore, low paid government servants are unable to get residential accommodation even if they are given housing allowance and, as such, priority should be given to the construction of houses for Class III and Class IV employees for which an allocation of Rs. 334.0 million has been made in the Plan.

5. COMMUNITY SERVICES AND UTILITIES

65. An allocation of Rs. 1493.00 million has been made in the Plan for the following programmes:—

(a) Urban Watersupply, Sewerage and Drainage.

(b) Rural Watersupply and Sanitation.

(c) Metropolitan and Urban Transport.

(d) Regional and Community Parks.

(e) Fire Services.

Other community facilities such as Gas, Electricity, Schools, Dispensaries and Hospitals, Post offices, etc. are dealt with under other related sectors e.g. Power, Health, Education Social Welfare and Transport and Communications.

(a) *Urban Water, Sewerage and Drainage*

66. Only 7 per cent of the urban population has piped water and sewerage. This is only 1.4 per cent of the population of the whole country. A large part of the population wash and drink from ponds or even from sewage water. Most sewerage goes into open drains and no city has a proper sewrage treatment system. Drainage of storm water is also poor and streets are often flooded. More than a quarter of the urban population have no sewerage or drainage of any kind, so that their wastes either accumluate or evaporate or disappear by seepage. Sewerage and water supply are often in disequilibrium. For example, Rawalpindi sewerage has lagged behind water supply to such an extent that the water table is steadily rising and is now rotting the foundation of some of the bigger buildings. As the poor quality of water and sewerage is a great menance to public health to our cities towns, therefore, this programme is given a very high priority in the allocation of capital resources.

67. Modern water and sewerage facilities are expensive relative to the income of the population. In 1970, normal capital costs for piped water in West Pakistan cities were estimated at 93 rupees per person, and sewerage at

drainage at 83 rupees a head. A major problem with water and sewerage facilities which are not connected to individual houses is that the users cannot be identified and cannot, therefore, be directly charged. As water rate is levied only on consumers with taps, water, revenue covers only a fraction of water costs in most cities.

68. In pripcipal, one third of the funds for municipal water and sewerage are a grant by the provincial governments to municipal authorities, improvement trusts etc. Another third consists of loan and the rest is financed locally. It is proposed to spend Rs. 1664 million on urban watersupply, sewerage and drainage during the Fourth Plan (Rs. 1,113 million in the Plan supplemented by Rs. 551 million from local government). This is a substantial improvement over the Third Plan total spending on urban water and sewerage of about Rs. 436.00 million. Increase in the allocation of this sub sector is based on a long range strategy designed to gradually increase standards so that by 1990 the majority of urban and rural population will have adequate facilities. However the Fourth Plan allocation will support only a selective programme which will consist of:

(1) Improvement of the present system.

(2) Addition to, and expansion of, the present system.

(3) Modest and economical large scale programmes (water, sewerage and drainage) only for those large urban centres which can pay for the programme in the long range.

69. At the beginning of the third plan there were 11 operated piped municipal water system in East Pakistan. Now there are 26 and by the end of the Fourth Plan there would be more than seventy. In addition, comprehensive watersupply and sewerage system for Dacca and Chittagong would also be completed. In West Pakistan during Fourth Plan 30 towns would be provided with piped water supply system. In addition, comprehensive water supply and sewerage system for Karachi and Lahore would also be completed. Moreover in both the wings of Pakistan regional laboratories for Public Health Engineering would be established and also training institutes for operators, supervisors would be initiated.

70. Those areas which may not be catered for during the Fourth Plan are proposed to be covered by intensive public health education programmes, which should teach the citizen how to get the best out of the present system and use simple and economical methods for protection against various hazards from impure water and how to improve the existing excreta disposal system. Provincial Governments have not paid much attention to the professional and sub-professional manpower needs for public health engineering. These will need to be dealt with on a priority basis and before any projects and programmes are agreed to, clear assurance of manpower planning and training will need to be given by the Provincial Governments. Water pollution control legislation has recently been enacted in East Pakistan. Similar legislation should also be enacted in West Pakistan.

(b) *Rural Water Supply and Sanitation*

71. There are nearly 111 million people in rural areas of Pakistan. The Third Plan gave about 45 paisa each for water and sanitation over a five year period, whereas the urban population got Rs. 13.5 each plus municipal spending. It is inevitable that *per capita* costs are higher in cities than in villages where simpler solutions are feasible. There is also a bigger public health risk from deficiencies in the cities. However, the gap between town and country is very

large which must be reduced. During the second and third plan period, 1,64,000 tubewells (hand pumps) were sunk in rural areas of East Pakistan and water-supply of 473 villages of West Pakistan was improved. In the Fourth Plan Rs. 200 million have been allocated for rural watersupply and sanitation programme. These resources would be further augumented by the Rural Works Programme and UNICEF contribution. This programme would enable installing of 1,50,000 new tubewells, and re-sinking of 30,000 choked up tubewells in the rural areas of East Pakistan. In West Pakistan, water supply of 500 villages would be improved. Rural sanitation and drainage programme in 300 villages of West Pakistan comprising of open surface drains, out fall drains, sewer pumping station, oxidation plant etc. would be initiated. The sewage effluent obtained under this programme would be utilized for irrigation purposes. In East Pakistan the on-going rural sanitation programme of supplying slabs for rural latrines to be installed on self-help basis wound be further expanded.

(c) *Metropolitan and Urban Transport*

72. There is an intimate relationship between transport and land use. Transport is a function of land-use and land-use is a function of transport, or to state the same in non-technical terms, transport and traffic problems or demands are created by changes in land-use, while potentialities for changes in land-use are also enhanced by transport connections and improvements. The transport system of a metropolitan or urban area performs the same function as arteries and veins in the human body. These relationship and roles have not yet been fully understood and appreciated in Pakistan and in the absence of an effective system of national, regional and local physical planning, the urban and metropolitan transport problems have become complex and unwieldy. So far the Provincial Governments have tried to tackle these, as if, these were a function of traffic police or by just adding a few buses to the existing overloaded and badly maintained fleet. As yet, there are hardly a few professionally qualified transport planners and traffic engineers in the country. Transport planning as a part of metropolitan and urban planning is neither well understood and appreciated nor can it be initiated in all metropolitan and urban areas due to institutional, trained manpower and administrative problems.

73. Major Metropolitan problems are the lack of coordination of urban transportation and the growing traffic congestion. They are frustrating to the authorities and to the people who are exposed to daily discomfort and delays. They are also causing considerabte economic waste and loss of production. A mixture of pedestrions and a great variety of vehicles (tongas, buses, automobiles, three wheelers, motor cycles, bicycles, rickshaws, bullock and donkey carts) are usually circulating through a mass of street too narrow to contain them. The congestion often causes great traffic jams due to an unprecedent growth of motor vehicle fleets. It increases nervous tension and air pollution and claims its daily quota of human life. Moreover, the only means of public transport in the metropolitan areas of Pakistan is the local bus service. At present, the local bus services are mostlly run by the private sector, and are unreliable, unsafe and most uncomfortable. In each metropolitan area there are various privately owned bus companies which compete with each other instead of complementing each other ; and the urban dwellers and commuters are the real losers in the squeeze created by profitable supply and legitimate demand. There is therefore, urgent need not only to have an efficient circulation sytem but also a better local bus service.

74. Efficient public transport system is an essential condition of survival of Pakistan urban society. Their planned and economic operation is vital to the

city—region whether they can earn profits or, like agriculture, need to be supported. However, it is well known fact that by providing more efficient transportation we can definitely reduce various tensions and problems existing in our large cities.

75. In order to initiate the metropolitan and urban transport programme in a systematic manner during the Fourth Plan, it is proposed to allocate Rs. 120 million in the Public Sector which will be further augmented by associating the private sector with this programme. The programme will include not only better bus services but also road improvement. It will be necessary first to create metropolitan and urban transport corporations in a few selected cities of East and West Pakistan. In these selected cities, transportation and traffic planning studies and implementation will be undertaken which will deal not only with mass transport and or rapid transport but also the provision and improvements of roads, streets and parking spaces. In order to improve the quality and quantity of public transport facilities, it is recommended that arrangements be made to import large number of buses and improve the maintenance and operation of public transport.

(d) *Regional and Community Parks*

76. There are many ways in which urban amenities need improvement. There is a serious lack of recreational and cultural parks etc. It is also desirable to restore the Moghul tradition in gardening and public architecture. In all these field a little money can go a long way. But unfortunately, the Improvement Trusts and Development Authorities who are responsible for the implementation of Development Plans of the cities do not have resources to acquire and develop areas earmarked for parks, play grounds, recreational areas etc. Therefore, these activities are badly neglected. In order to ensure the development of Regional and Community parks, playground and recreational areas in both the Wings of Pakistan a sum of Rs. 10 million has been allocated in the Plan which will be given as grant in aid by the Provincial Government to the local bodies.

(e) *Fire Services*

77. In West Pakistan the facilities of fire services is provided by the municipalities. However, in East Pakistan due to the meagre resources available with the municipalities, the Provincial Government has set up a separate Directorate of Fire Services. This department looks after the need of fire service of all the urban areas of the Province. In view of the recent heavy incidence of fires in the Commenrcial and Industrial centres of East Pakistan it is proposed to make a major improvement of urban fire services in East Pakistan for which Rs. 50 million have been provided in the plan.

6. AID TO LOCAL BODIES

78. This programme is mainly meant for providing assistance for the Physical Planning and Housing programmes of Municipalities, Improvement Trusts and Development Authorities for which Rs. 410.00 million have been allocated in the Plan. The Improvement Trusts and Development Authorities of the large cities of Pakistan have played an important role in the acquisition and development of land for providing developed plots to individual house builders and in some cases have even built houses. These efforts have, however, been to meet the needs of middle and higher income groups and only a modest effort has been made toward meeting the needs of the lower income group. The main drawback of this programme was that the local bodies

developed land with low interest government loans and sold it on non-profit basis. There have been no effective limits on the size of plots and as such the programme became a big handout to the rich. As during the Fourth Plan the public sector programme will be fully devoted to the need of low income group, the local bodies will have to reorient their programmes accordingly. In future, funds for upper income housing should come from the private sector on commercial terms and the plots for higher income group should be sold by auction.

79. In developing new housing projects local bodies should not only promote vertical construction but also economize on the size of plots. Even for the higher income groups we need to promote more functional and economical space standards. It is, therefore, recommended that the following classification and space allocation guide may be used for planning and implementation of the Housing Projects during the Fourth Plan:

Classification Guide

Group	Urban Income Groups	
L-I — Lower Income Group	Families where principal earning member of the family is earning from	Rs. 0—300 P.M.
M-I — Middle Income Group	Do.	301—900 P.M.
U-I — Upper Income Group	Do.	901 and above P.M.

Urban Space Allocation Guide

Group	Plot Size	Accommodation
(*a*) Low Income Group	60—200 sq. yds.	1-2 main rooms – kitchen, bath, W.C., Verandah.
(*b*) Middle Income Group	201—400	2-3 main rooms and all other facilities and services, etc.
(*c*) Upper Income Group	401 sq. yds. to 450 in case of East Pakistan and 401 to a Maximum of 600 sq. yds. in case of West Pakistan In exceptional circumstances. No plot will exceed 1000 sq. yds..	3 or more main rooms and all other facilities and services, etc.

7. URBAN WORKS PROGRAMME

80. Slum improvement or clearance, housing and urban development have elements that are purely social. These must be appropriately linked with an effective programme of physical improvement and physical planning. Slum dwellers are often at the mercy of events. They are most affected by various general developmnt programmes and they are least in a position to influence these programmes to serve their own real needs and benefits. It is here that we can effectively utilize an Urban Works approach, by initiating an appropriate programme for slum improvement, which will create a partnership between physical and social planning.

81. Such an Urban Works must recognize the fact that it is impossible to provide a suitable house to every individual in the urban areas in the initial stages of development, as the total expense involved would be prohibitive. It

is proposed, therefore, to establish an Urban Works Programme with housing as its major constituent, together with community parks, open spaces, and other community facilities and civic structures. Such a programme will not only provide some much needed basic facilities and services, but also create large scale employment opportunities and thus will be instrumental in removing general tensions and discontent prevailing in our growing urban areas.

82. Although the Rural Works Programme which was initiated during the 2nd Plan has by and large been successful, a few problems have been experienced which need to be effectively tackled, if the scope of the programme is to be expanded and enlarged and if new dimension of Urban Works is to be added. The first problem relates to the availability of technical skills and supervision. In case an Urban Works dimension is to be added to the programme there will be need for improving and enlarging the technical advice at the disposal of the Provincial Departments of Basic Democracies and Local Government. An adequate system of ensuring effective technical help to Local Councils will have to be evolved and necessary steps will have to be taken to ensure that Physical Planning and Housing experts and services are available to the local people as and when necessary. Appropriate supervision of the projects during their implementation will require the services of expert Advisory Officers. Arrangements will have to be made to ensure prompt and steady flow of key building materials for experience has been gained in the case of the Rural Works Programme that financial allocations are not in all cases matched by availability of materials and technical advice. Adequate arrangements will have to be made for proper maintenance of the projects completed under this programme.

83. A programme for urban areas will pose many challenges which have not so far been met in case of the Rural Works Programme. The villages with all their economic and social backwardness as well as problems of sheer physical survival, still provide a certain spirit of community or a general sense of belonging and mutual resposibilities not always to be found in the urban areas. Various types of natural calamities or a crisis situation further strengthen this mutual bondage of the rural people. During the process of urbanization, these rural immigrants who then become industrial, commercial or white-collar workers, go through such a frustrating phase of adjustment to the new un-sympathetic and hostile urban environment that many of these trails of operation community action (and optimistic belief in the final results of such an action) are slowly submerged in their sheer struggle for survival.

84. The challenge faced by the urban works programme, therefore, is to ignite a new spark of enthusiasm which will effectively harness the energies of the urban unemployed or underemployed to the improvement of slum areas, low cost self help housing, developing community parks and other community facilities.

85. This challenge will have to be faced by the Government in general and the Provincial Departments of Local Government in particular. The Local Government in our country is still in its early stages of development. Nevertheless with further research, appropriate thinking and some structural changes, it may be possible to initiate an Urban Works Programme on a pilot project basis within the framework of the present system. An important feature of this programme will be to instill a sense of participation in the urban population and give them the feeling that if they devote themselves to hard honest and laborious physical contribution of their own, not only will their Government assist them but will also see to it that their contributions and efforts are not wasted and the desired results are achieved. Such a partnership between the people and the Government cannot be created

by an executive order or by expanding the bureaucratic network or by relying on an optimistic belief that eventually people will work out some solution for themselves. This will require intensive research and thinking and a deliberate programme will have to be chalked out and tested on the basis of a pilot project. It should be possible to initiate certain pilot projects through a religious or a business and commercial group which may be interested in participating in such ventures and enhancing their leadership. If projects are to be launched through the Government Agencies, then appropriate administrative overhaul and restructuring of local government will be essential.

86. It is suggested that a selective programme for provision of multi-purpose community centres, (dispensary, library, lecture hall, handicraft workshop, recreation area etc. etc.) and provision of open spaces, small parks alongwith self help housing, slum improvement etc. may be launched with the assistance of Local Government Departments at Lahore, Dacca, Karachi and other selected large cities. The Programme will need to be executed under expert supervisions, and with appropriate administrative re-organization. Special Units or organizations staffed and manned by professional and technical experts will need to be established within the Provincial Governments. The allocation for the programme appears alongwith Rural Works Programme and as such it is not included in the Physical Planning and Housing Sector Programme.

8. TOURISM

87. The rapid growth of tourism and the diversity of tourist demands call for proper coordination among the different concerned sectors to satisfy tourist needs. To provide for planned tourism development programmes in the public and the private sectors, a sum of Rs. 15 million has been allocated in the public sector and Rs. 600 million in the private sector.

88. During the Third Five-Year Plan, the private sector was allocated Rs. 250 million for investment in the Tourist Industry. According to an evaluation and internal survey conducted by the Department of Tourism, this ceiling in the private sector has been over-short, as there has been a very considerable investment in the field of hotel construction in the country. During the Fourth Five-Year Plan period there will be a dramatic change in air transportation all over the world as "Jumbo Jets" SST's will be flying hundreds of visitors from one country to another. The completion of the part of the Asian highway between Pakistan and Europe should also greatly increase the inflow of road visitors. Already the inflow of foreign tourists has reached 45,000 a year. Besides, with the availability of more tourist facilities and gearing up of the publicity and public relations drives by the Department of Tourism, the tourist flow to Pakistan is estimated to increase manifold.

89. Recent Tourist trends show that the European tourist markets have now become beaten tracks and foreign tourists are coming in larger numbers to the South and Far Eastern countries. Keeping these factors in view, the private sector needs to be further stimulated for tourist accommodation and transportation, entertainment, souvenirs and other fields of the tourist industry to absorb the tourist demand during the Fourth Plan period when the estimated tourist earnings from international and domestic tourism will be far more than the proposed modest investment in public and private sectors.

90. Tourist Programmes should be integrated with regional and urban plans and where necessary (like in the case of Swat, Kaghan, Cox's Bazar, Chittagong Hill Tracts, etc.) separate regional plans for tourism should be prepared

and implemented. Besides catering for international tourism, some thought must be given to domestic tourism as well. Promotion of recreational tourism for the youth by creating and developing regional parks is only one of the possibilities in this direction. This should be considered as a welfare activity, leading towards national integration and development. In addition, steps must be taken to create "hospitality and good will" attitude within the country for foreign tourists as well as to eliminate the red-tape and unnecessary formalities which discourage foreign tourists to visit Pakistan.

91. There seems to be an erroneous impression that if certain facilities and services are provided the tourists automatically start flowing in. The cost of these facilities and services is as important as their provision. A few rich tourists may not mind the high costs, but a large majority is very much cost-conscious and efforts must be made to provide comfortable, clean and attractive facilities at modest costs in keeping with international and domestic tourists' economic potentialities.

92. We must consider Tourism as a potentially powerful industry and as such provide protection, incentives, concessions and other special treatment as we do to other industries which need acceleration and development. For this purpose it is recommended that government should grant special incentive such as tax holiday, for Tourism Projects, loan facilities for Tourism installations, exemption from customs duties and sales tax on imports for official tourists constructions and installations and exemption from municipal and property taxes. Inclusion of the tourist industry in the investment and industrial schedule, bonus entitlement of the tourist industry at the rate of 40%, permission of sale of Bonus vouchers, earned by the Hotel industry within other kinds of tourist industry, permission for tourist industry personnel to utilize part of their bonus earnings for business travel abroad, under writing of share capital and purchase of debentures in Tourist Projects by ICP and NIT would help to attract private sector in the field of Tourism. Moreover, supply of water, power etc. should be provided to tourist installations at industrial rates, and also state/municipal land for tourist projects on non-commercial rates should be made available.

93. In order to encourage foreign tourists to visit Pakistan, the most urgent steps to be taken are the elimination of red-tape for entry and exist and the provision of favourable rates of currency exchange. The prevailing rate of currency exchange is most unreasonable which either discourages the foreign tourist to visit Pakistan or results in mal-practices. It is, therefore, recommended that the government should immediately introduce a special Tourist Rate of Exchange for tourists. This system would stop leakages in foreign exchange earnings and attract more tourists to come to Pakistan. Moreover, relaxation of frontier formalities, such as registration rules, restriction on import and export, import of photographic films and equipment as well as permission of photography of archaeological and historical monuments, preservation of forest wealth and wild life etc. would go a long way in attracting more foreign tourists to Pakistan.

94. Tourism is a multi-sector Industry involving not only Central and Provincial Governments but also various agencies in the Private Sector such as Hotel and Restaurant owners, Travel Agents, Shipping Line owners, etc. Such a multi-sector industry needs to be coordinated and developed in an effective manner for which there is an urgent need for the creation of a Central Ministry Incharge of Tourism. In addition, the exsting Department of Tourism should be strengthened so as to enable it to work effectively in the field of publicity and promotion, development in public and private sectors, regulation and supervision, facilitation and research and allied fields.

95. The Department of Tourism in their day-to-day functions have to co-ordinate their activities with scores of Central Divisions and Provincial Government Departments, Local Bodies, Social and Cultural Organizations, Airlines, Travel agencies, PIA etc. Besides, as tourism encompasses all the natural gifts which the country possess, such as historical and archaeological sites, mountain areas, sea beaches, flora and fauna, cultural heritage, food, souvenirs etc., the policy making machinery responsible for tourism should be appropriately placed in the hierarchy of the Government for effective planning, coordination and implementation of the projects connected with the development and promotion of tourism. As the private sector, particularly, hoteliers, travel agents, tour operators, financing institutions are also involved in the preparation of the country to receive foreign tourists, their opinion and suggestions are also vital. It is, therefore, necessary that a National Tourism Council should be set up with powers to make decisions on policy issues as well as on issues involving coordination among various Central Ministries and the Provincial Governments. The National Tourism Council should comprise of the Secretaries of various Ministries and Divisions of the Central Government as well as Chief Secretaries of the Provincial Governments. The Minister of Tourism should be the Chairman of the Advisory Council. This will solve many problems and remove bottlenecks which the Department of Tourism is facing at present.

96. Although tourism is a Central subject but the Provincial Governments have a very important role to play. This is because the necessary infrastructure so urgently required for developing a place of tourist attraction has to be provided by various departments of Provincial Governments such as roads by Highways Department, electricity by WAPDA, watersupply by PHED and so on. If these development activities of various departments are coordinated, new places as well as old places of tourist attraction can be developed much more quickly. For this purpose, Provincial Tourist Advisory Committees have been set up in East and West Pakistan. These Committees have been charged with the responsibility of giving administrative assistance to the Department of Tourism in respect of implementation of the development schemes undertaken by them and also coordinate and dovetail works of developmental nature having a tourism basis, with various autonomous bodies functioning under the administrative control of the Provinces such as Improvement Trusts, Municipalities, Road Transport Corporations etc. This step has helped in the creation of a sense of participation by the Provinces, in the development of the tourist areas in the country. But still adequate provision is not made in the Provincial budgets for the development of infrastructure in areas which have tourist potential. It is, therefore, recommended that a separate sub-sector of tourism should be created in the Provincial Governments for coordination purposes whereas the execution of work may continue to be handled by the existing departments. Moreover every Province should have its own cell dealing with tourism which should be responsible for the development of tourism in the Province and also coordinate closely with the Department of Tourism in the Centre.

97. Tourism is not merely an industrial, commercial and entertainment activity. It also widens the outlook of people. The restriction imposed on Pakistanis wishing to travel abroad should be relaxed and people should be encouraged not only to travel within Pakistan but also abroad. It has been noticed that the publicity and promotional activities are lagging behind. Therefore, Pakistan's image abroad specially of its tourist attractions needs to be publicized more intensively and extensively. In order to promote national image of tourist attraction in foreign countries, it is proposed that Pakistan Foreign Service Probationers should be familiarized with the tourist attration

areas of Pakistan which should be formed as part of their training. Similarly in the Civil Service and other such academies, the subject of tourism should be included in the curricula. Moreover necessary facilities should be provided both within the country and abroad for various kinds of training so as to cater for the needs of Tourism industry, such as Hotel management, Restaurants, Catering, Tourist Guides. However, pending promotion of these facilities within the Pakistani Universities, existing arrangements at Karachi may be given support for expansion and foreign assistance.

98. Realising the importance of the role of the Private Sector, in the development of tourist industry, the Government has recently set up Pakistan Tourist Development Corporation (PTDC) in the Private Sector. It is recommended that the Corporation should only take up large scale ventures and enterprises in the Private Sector with association of international capital and enterpreneurs. This Corporation and the proposed Ministry of Tourism, should also carry out a feasibility study of tourist potential as well as its promotion and development, in the R.C.D. countries. This will promote the development of Tourism on an inter-regional basis.

9. SPECIAL AREAS

99. This sub-sector includes the most urgent and essential Physical Planning and Housing Programmes of Azad Kashmir, Gilgit, Baltistan, Frontier region, Tribal areas and other Developing Regions for which Rs. 45 million have been allocated in the Fourth Plan. The preparation of Regional Planning and Development sub-sector. Within the framework of regional development plan of Chittagong Hill Tracts the Physical Planning and regional development planof Chittagong Hill Tracts the Physical Planning and Housing programme of this area would be executed.

10. GOVERNMENT BUILDINGS AND NEW CAPITALS

100. The requirements for government offices and buildings as well as for the two new capitals at Islamabad and Dacca are extremely large and cannot be fully met during the Fourth Plan period. It is, therefore, necessary to phase out these programmes and to meet only the most urgent and essential needs during the Fourth Plan. For this purpose Rs. 188 million have been allocated for government offices and buildings and Rs. 500 million for the two capitals. In case of government offices, because of extreme shortage of accommodation, the government is not only paying very high rents for private bungalows being used as government offices but also the offices are dispersed over a number of places. This has created many problems. It is, therefore, necessary to construct multi-storeyed government office accommodation in central locations so that the scattered offices could be brought together which would not only improve the efficiency of government work but also prove convenient to the general public.

101. The construction of Islamabad has now reached a stage where the annual expenditure by Central Government for Islamabad development, maintenance and further improvement should start decreasing. However, this would only be possible if the projection and strategy of development for Islamabad is considered within the framework of Islamabad Capital Region. This means that Islamabad Capital Region is conceived as a system of urban agglomerations with Islamabad being one, presumably the central one (namely the administrative centre of government) and the others comprising of one or several industrial and commercial centres, including Rawalpindi, one or two

recreational and tourist centres, a cultural centre and a centre of higher learning. The main advantages of this approach are that it would preserve the intended special character of the Capital City largely as conceived and would enhance the economic viability of the wider region of Islamabad both of promoting the development of existing and the establishment in selected strategic locations of new centres for functions other than government administration planned for efficiency and productivity. For this purpose it is necessary to set the process of regional analysis, planning and development in motion immediately. Besides preparation of a perspective outline Plan, etc. it is essential to establish a unified super-rapid-transit-system for the Islamabad Capital Region with particular emphasis as the first step, on the direct Islamabad Rawalpindi centre to centre non-stop connection (in 10 minutes or less) which would enhance the use by most workers of bicycles for local travel in both urban centres and facilitate the socio economic integration of these centres as elements of the city-region.

102. The construction work in the Second Capital at Dacca is being accelerated so that the National Assembly Building with all the related facilities etc. are completed during the Fourth Plan. Moreover, adequate allocations have been made to meet the cost of compensation of land and completion of all the ongoing projects of Second Capital at Dacca.

11. PRIVATE SECTOR PROGRAMME

103. In the private sector, individual enterpreneur and small investors are faced with a number of problems. The main problem in private sector housing is that the average yield on housing investment is roughly 4.5 per cent and it progressively declines when a larger number of units are constructed as income exemption limit is crossed and the incidence of income tax increases. It is, therefore, recommended that provincial taxes on urban property should be withdrawn and this field be left entirely to local bodies. In case of East Pakistan, in addition to exemption from urban property tax, it is recommended that the municipal tax should be charged at half the normal rate for a period of five years on newly built urban property.

104. At present among the tax incentives available for housing, tax holiday for housing estates appears to be the most powerful. Its effect is, however, blunted by the various conditions imposed such as rent restriction, number of units, etc. It is, therefore, necessary that no rent restrictions be placed on new housing for availing tax holiday. Rents would be controlled naturally through competition, if proper incentives exist.

105. The condition that at least 25 bungalows or flats or 100 units of one, two or three room houses be built in order to avail of tax holiday, limits this facility to large scale investors only. Investors of modest means, who may wish to build one or more units for rental are thus excluded. It is, therefore, necessary that the tax holiday be made available to all types of investors, irrespective of the number of units built as long as these units are meant for lower and middle income groups.

106. Under the present tax holidays, dividends declared by the company out of the tax-exempt income are taxable in the hands of shareholders. This also negates the effect of the tax holiday. It is recommended that the tax holiday should in fact be extended to dividends declared out of tax exempt income of the company also. Another problem for the large scale investors, is the present weak arrangements for evicting the tenant in case of default. This needs to be examined and necessary amendments made within the existing legislation.

107. The House Building Finance Corporation is virtually the only credit institution at present active in the field of housing. Its activities are, however, severely limited by (a) inadequacy of resources at its disposal and (b) the limited number of branches in the country. The Corporation is serving a few major urban areas and cannot extend its branches to other areas unless it is in a position to increase its financing operations substantially. It is, therefore, necessary to augment the resources at the disposal of the House Building Finance Corporation. However, the Corporation will have to redirect its loans towards lower income groups and streamline its procedure for giving loans because during the past the average loan of the corporation has been about 20,000 rupees which has helped to finance private housing construction of the upper income group. In case of East Pakistan the repayment period of loan granted by H.B.F.C. should be increased and the rate of interest should be lowered for housing construction of low income group.

108. So far the public has been highly dependent on the House Building Finance Corporation for credit. No efforts have been made to initiate and develop Savings and Loans Associations for House Building. These are thrift institutions, where people deposit their savings because it gives nigher rate of interest as the Commercial Bank and the institution lend money for house building As the Association charges a slightly higher rate of interest on its loans than the normal rate, it is able to provide better return than normal savings in the Commercial Banks. Accordingly, various income groups are attracted to deposit their savings in such Associations for the handsome returns. In this way subtantial fund become available for granting loan to house building on a long term basis. Such Associations accordingly create new capital for housing and are not dependent on support of the government except for intial seed capital for establishment in the form of a loan. Development of such Associations will lend a powerful impetus to the private sector in meeting the needs of lower and middle income groups. The State Bank of Pakistan may be directed to set up such institutions.

109. Entrepreneurs wishing to enter the housing field need multifarious credit facilities. The banks are unwilling to provide credit facilities for trade or other purposes against the mortgage of residential houses and other constructed assets. If such a facility was available, owners of house property would be protected against distress sale in time of need and would be more willing to hold this type of assets. For this purpose it is recommended that a specialized mortgage institution be set up which is not restricted by liquidity considerations and can realize its dues over longer periods of time than is the case with commercial banks.

110. Insurance companies have substantial and growing funds at their disposal. These funds are ideally placed for long term financing, such as house-building. However, insurance companies have not so far participated actively in providing house-building loans. An important reason for this is the legal requirement which directs the bulk of the insurance funds to Government securities and approved shares. It is recommended that the Commerce Division should examine the possibility of treating loans for housing at par with statutary investments upto a certain percentage. A difficulty experienced by insurance companies in lending for house building is in respect of supervision of construction and ensuring that funds provided are actually invested for house building purposes. It is, therefore, recommended that the House Building Finance Corporation may be asked to enter into arrangements with insurance companies, whereby, all the investigation and supervision work is done by the Finance Corporation for a fee while the loan is actually granted by the insurance companies.

111. In order to further augment financial resources for house building purposes, it is recomended that the IDBP & PICIC, ICP, & NIT should provide certain percentage of their total investment to the Housing Industry. There should not be any embargo against accepting land as security to grant loan to Housing Companies and in case such embargo exists then Central Government may take necessary steps to remove the embargo.

112. Although Housing has been declared as an Industry, yet the Commercial banks do not favour granting loan to this Industry against land security and the State Bank of Pakistan does not encourage investment against land security. There should be appropriate regulatory orders from the Government to the effect that a certain percentage of the total investment of Commercial Banks should, in the minimum, be made in the Housing Sector against Security of land and building which should be counter financed by the State Bank of Pakistan to Commercial Banks exclusively for housing.

113. Housing industry has not developed in the way other industries have developed in Pakistan. This is because of numerous problems faced by an entrepreneur entering into housing industry. In order to solve these problems as well as to ensure that private housing activity is directed towards lower and middle income groups, the following measures should be taken by the provincial governments :

(a) As a pre-requisite to qualify for Government assistance and support the Private investors in Housing should select site, prepare complete scheme showing the types of houses, number of houses, plots of various sizes, details of other amenities, financial aspects of sale of houses and plots for residential and other uses and submit the same to the concerned department of the Provincial Government. On receipt of comprehensive schemes, Government will examine the feasibility and soundness of the scheme especially with respect to the cost of the houses so as to ensure that it would be within the means of lower and middle income groups for whom these schemes would be primarily meant.

(b) If necessary, other terms and conditions that may be considered necessary by the Provincial Government will be incorporated in the scheme to qualify it for Government support. If the scheme is found feasible in all respects and the sponsors agree to the terms and conditions as may be imposed by the Government, then the Government will render necessary facilities, required for the execution of the scheme which are stated below :

(i) Government will requisition and acquire necessary land on behalf of the entrepreneurs.

(ii) The Government or Corporate Bodies would provide road link with the nearby main throughfare, sewerage, watersupply and electricity, as these facilities are provided to the existing and growing communities by the Public sector. However, these may be phased out depending on the progress of building programme of houses as the case may be.

(iii) Municipal Committees or other Corporate Bodies should take charge of maintenance of the housing estates developed by the Private Sector immediately after completion and levy taxes as usual on the owners of properties.

(iv) In order to ensure that the schemes must be sound, the Government should not only approve the schemes initially, but should have close association and check throughout the process of implementation, allotment, and financial transaction.

114. In order to expand the housing construction programme in the Private sectior it is necessary that the development, production and marketing of essential building materials as well as other essential construction equipment etc. should be given priority attention and domestic facilities developed for producing (wherever feasible) equipment such as lifts etc. Production of lifts is very urgent in order to promote vertical living in urban areas where land is at premium. Pre-fabrication and mechanization of housing and building construction is also urgent for which prefabrication factories on a pilot project basis may be initiated in large cities. If the experiment proves successful then the programme should be expanded to other urban centres. To conclude, it is not possible for the Private Sector to make any substantial contributions till the Government takes immediate action to provide certain basic prerequisites and incentives which are summarized below :

(a) *Institutional Development*

1. Setting up of House Building Corporation.
2. Dvelopmnt of Savings and Loan Association.
3. Development of a Housing Bank.
4. Promotion and Development of appropriate forums for the contractors, entrepreneurs and professionals in this sector to meet and present their points of view as well as promote the same.
5. Promotion of Cooperatives and Cooperative Housing.
6. Promotion and development of building construction industry along modern lines.
7. Establishment of pre-fabrication factories on experimental basis.

(b) *Fiscal Incentives*

1. Promotion and expansion of credit facilities.
2. Removal of rent restriction for claiming tax holiday for newly built housing estates and further application of the same holiday as well as to sale of houses built by private entrepreneurs.
3. Liberalization of loan payment plans to longer time period and lowering of rate of interests.
4. Permission to commercial banks ,insurance companies, PICIC, ICP, NIT & IDBP for earmarking certain percentage of their funds for housing investment.

(c) *Legislation*

1. Legal Acts for: Housing Bank, Savings and Loans Associations and a Housing Act spelling out responsibilities and financial and legal arrangements for housing of various income groups etc.

2. Streamlining and if necessary revision, of the Eviction laws, in order to enable the entrepreneur to evict the defaulters from his housing unit or estate without any delay.

(d) *Technical and other Assistance from Government*

1. For land acquisition and provision of road link, sewerage, water-supply and electricity.
2. For planning & designing of economical and functional houses etc. for lower income groups.
3. For producing or importing essential equipment and machinery at economical rates.
4. For accelerating the production of essential building materials.
5. For training of semi professional and skilled labour force.

Appendix A

SELECTED PHYSICAL TARGETS FOR THE FOURTH PLAN (1970—75)

EAST PAKISTAN

New Institutions	
Provincial Department of Physical Planning and Housing	1
House Building Corporation	1
Research Institutions	
Building and Housing Research Centre	1
Public Health Engineering Laboratories and Institutes	2
Planning	
Outline Development Plans	5
Urban Development Plans	5
Development Plans for Metropolitan Regions (Dacca Region, Chittagong Region and Khulna Region)	3
New Towns	
Planning and Development of New Towns in North Bengal	1
Housing	
Public Sector Urban Plots for Low Income Groups	60,000
Urban Plots in Semi-Public Sector	20,000
Urban Plots in Private Sector	50,000
Facilities and Services	
Water Supply, Drainage and Sewerage for Urban Areas	30 Urban Areas.
Rural Water Supply	1,80,000 Tubewells and Hand-pumps.
Urban and Regional Transport	
Mass Transit System for Metropolitan Regions (Dacca, Chittagong and Khulna)	3

Appendix B

SELECTED PHYSICAL TARGETS FOR THE FOURTH PLAN (1970—75)

WEST PAKISTAN

(These are aggregate targets for new Provinces of Baluchistan, Sind, N.W.F.P. and Punjab).

New Institutions	
Provincial Departments of Physical Planning and Housing	3
House Building Corporations	2
Research Institutions	
Building and Housing Research Centres at Karachi, Lahore and Peshawar	3
Public Health Engineering Laboratories and Institutes	6
Planning	
Outline Development Plans	3
Urban Development Plans	4
Regional Development Plans	3
Housing	
Public Sector Urban Plots for Low Income Groups	60,000
Urban Plots in Semi-Public Sector	40,000
Urban Plots in Private Sector	80,000
Facilities and Services	
Water Supply, Dramage and Sewerage for Urban Areas	30 Urban Areas
Rural Water Supply	500 Villages
Urban and Regional Transport	
Mass Transit System for Metropolitan Regions (Karachi, Hyderabad, Multan, Lahore and Peshawar)	5

Appendix C

SELECTED PHYSICAL TARGETS FOR THE FOURTH PLAN (1970—75)

CENTRAL GOVERNMENT

New Institutions	
Pakistan Centres for Regional and Urban Development at Karachi and Dacca	1
Savings and Home Loan Bank (With Offices at Dacca, Karachi, Lahore and Peshawar)	1
Planning	
Regional Development Plan for Moenjodaro and Chittagong Hill Tracts etc.	2
Regional Development Plan for Federal Capital Region	1
National Development Plan for Tourism	1
Regional Development Plans for Tourism	4
Development Plan for National Regional Parks	1
New Towns	
Capital at Islamabad.	60%
Capital at Ayubnagar	95%
Housing	
Industrial Workers Housing Units in East Pakistan	7,500
Industrial Workers Housing Units in West Pakistan	11,000
Regional Transport	
Rapid Transit System for Federal Capital Region	50%

Appendix D

NATIONAL ABSTRACT

ALLOCATION FOR THE FOURTH PLAN IN THE PHYSICAL PLANNING AND HOUSING SECTOR

(Million Rupees)

Sub-Sector	E. Pak	W. Pak.	Centre	Total
Public Sector				
Central and Provincial Government Expenditure :				
I. Basic Development	30.00	15.00	25.00	70.00
II. Regional Planning and Development ..	55.00	17.00	3.00	75.00
III. Housing :				
Rural Housing	30.00	5.00	—	35.00
Slum Improvement and Low Income Housing	320.00	160.00	—	480.00
Public Servants Housing	154.00	80.00	100.00	334.00
Ancillary Schemes	10.00	—	—	10.00
Industrial Worker's Housing ..	—	—	140.00	140.00
IV. Community Services and Utilities :				
Urban Water, Sewerage and Drainage	620.00	493.00	—	1113.00
Rural Water and Sanitation	150.00	50.00	—	200.00
Metropolitan and Urban Transport ..	60.00	60.00	—	120.00
Regional and Community Parks ..	5.00	5.00	—	10.00
Fire Services	50.00	—	—	50.00
V. Aid to Local Bodies	343.00	67.00	—	410.00
VI. Tourism	—	—	15.00	15.00
VII. Special Areas :				
States and Frontier Region and Tribal Areas	—	—	25.00	25.00
Azad Kashmir, Gilgit and Baltistan ..	—	—	20.00	20.00
VIII. Government Buildings and New Capitals :				
New Capital at Islamabad	—	—	290.00	290.00
Second Capital at Ayubnagar ..	—	—	210.00	210.00
Government Offices and Buildings ..	73.00	48.00	67.00	188.00
Total	1900.00	1000.00	895.00	3795.00
Private Sector				
Housing etc.	1,500.00	2,500.00	—	4,000.00
Metropolitan and Urban Transport ..	150.00	250.00	—	400.00
Tourism	200.00	400.00	—	600.00
Total ..	1,850.00	3,150.00	—	5,000.00

Note.—The potential size of investments indicated in the Private Sector includes investments in New Capitals but the present estimates do not include full details of investments in Rural Areas.

Appendix E

ALLOCATION FOR THE FOURTH PLAN IN PHYSICAL PLANNING AND HOUSING SECTOR

EAST PAKISTAN

(Million Rupees)

Public Sector		
1. Basic Development		30.00
Outline Plans	5.0	
Urban Development Plans	5.0	
Metropoliton Regional Development Plans	10.0	
Building and Housing Research Centre	6.0	
Public Health Engineering Institute	4.0	
2. Regional Planning and Development		55.00
National Pilot Project No. I :		
' Location and Planning of Cities in East Pakistan" :		
(*a*) Planning	5.00	
(*b*) Designing, land development and building of a new town in North Bengal	50.00	
3. Housing		514.00
Rural Housing (CARE Project)	30.00	
Slum Improvement and Low Income Housing	320.00	
Public Servants' Housing	154.00	
Ancillary schemes	10.00	
4. Community Services and Utilities		885.00
WASA, Dacca	175.00	
WASA, Chittagong	125.00	
Urban Water, Sewerage and Drainage (PHE)	320.00	
Rural Water and Sanitation	150.00	
Metropolitan and Urban Transport	60.00	
Grant -in-Aid for Regional Community Parks	5.00	
Fire Services	50.00	
5. AID to Local Bodies		343.00
Dacca Improvement Trust	225.00	
Chittagong Development Authority	75.00	
Khulna Development Authority	43.00	
6. Government Offices and Buildings		73.00
GRAND TOTAL		1,900.00
Private Sector		1,850.00
Housing etc.	1,500	
Metropolitan and Urban Transport	150	
Tourism	200	

Note.—The potential size of investments indicated in the Private Sector includes investments in Ayubnagar but the present estimates do not include full details of investments in Rural Areas.

Appendix F

ALLOCATION FOR THE FOURTH PLAN IN PHYSICAL PLANNING AND HOUSING SECTOR

WEST PAKISTAN

(Million Rs.)

Public Sector			
1. Basic Development			15.00
*Outline Plans		2.00	
*Urban Development Plans		6.00	
*Building and Housing Research Station		4.00	
*Public Health Engineering Institutes		3.00	
2. Regional Planning and Development			17.00
*National Pilot Project No. II. (Regional Development Plan for Peshawar Valley)		2.00	
*National Pilot Project No. III. (Development Plan for Karachi Metropolitan Region)		5.00	
*Regional Development Plans for Depressed Regions of Lower Sind, D. I. Khan and Baluchistan		9.00	
*Regional Development Plan for Lahore Region		1.00	
3. Housing			245.00
*Rural Housing —Pilot Projects		5.00	
*Slum Improvement and Low Income Housing		160.00	
Public Servants Housing		80.00	
4. Community Services and Utilities			608.00
*Urban Water, Sewerage and Drainage		350.00	
*Rural Water and Sanitation		50.00	
*Karachi Water, Sewerage and Drainage (42 million for ongoing and 30 million for new)		72.00	
*Lahore Water, Sewerage and Drainage		71.00	
*Metropolitan and Urban Transport		60.00	
*Grant in Aid for Regional and Community Parks		5.00	
5. Aid to Local Bodies			67.00
Improvement Trusts and Development Authorities in Frontier, Sind, Baluchistan and Punjab Provinces			
6. Government Offices and Buildings			48.00
GRAND TOTAL			1000.00
Private Sector			3150.00
Housing etc.		2,500.00	
Metropolitan and Urban Transport		250.00	
Tourism		400.00	

Note.—The potantial size of investments indicated in the Private Sector includes investments in Islamabad but the present estimates do not include full details of investments in Rural Areas.

Appendix G

ALLOCATION FOR THE FOURTH PLAN IN PHYSICAL PLANNING AND HOUSING SECTOR

CENTRE

(Million Rs).

Public Sector		
1. Basic Development		25.00
Pakistan Centres for Regional and Urban Development (Allocation indicated here include Foreign Aid of approximately 1.6 million U. S. Dollars) at Karachi and Dacca	15.00	
General Sectoral Reserach	10.00	
2. Regional Planning and Development		3.00
*N.P.P. IV—Regional Development Plan for Moenjodaro Region	1.50	
*N.P.P. V—Regional Development Plan for Federal Capital Region	0.50	
*N.P.P. VI—Regional Development Plan for Chittagong Hill Tracts	1.00	
3. Housing		240.00
Industrial Workers Housing	140.00	
Central Public Servants Housing	100.00	
4. Tourism		15.00
5. Special Areas		45.00
States and Frontier Regions and Tribal Areas	25.00	
Azad Kahmir, Gilgit and Baltistan	20.00	
6. Government Buildings and New Capitals		567.00
New Capital at Islamabad	290.00	
Second Capital at Ayub Nagar	210.00	
Government Offices and Buildings	67.00	
GRAND TOTAL —		895.00

Note.—*N.P.P. = National Pilot Projects.

TABLE I

Benchmarks and Physical Targets for the Third and Fourth Five-Year Plans in Physical Planning and Housing Sector

PAKISTAN

Sub-Sector/Items	Units	Bench-mark for the Third Plan 1964-65	Targets for the Third Plan 1969-70	Bench-mark for the Fourth Plan 1969-70	Targets for the Fourth Plan 1974-75
1. Department for Physical Planning and Housing.	Nos.	—	—	—	4
2. House Building Corporation ..	Nos.	—	2	—	3
3. Building & Housing Research Centres.	Nos.	2 Centres 30%	2 Centres	2 Centres 60%	4 Centres 100%
4. Public Health Engg. Labs. and Institutes.	Nos.	—	3	4	8
5. Pakistan's Centre for Regional and Urban Development at Karachi. and Dacca	Nos.	—	1	—	1
6. Savings and House Loans Bank..	Nos.	—	2	—	1
7. Regional Development Plan for Federal Capital Area.	Nos.	—	—	—	1
8. National Development Plan for Tourism.	Nos.	—	—	—	1
9. Regional Development Plan for Tourism.	Nos.	—	—	—	4
10. Dev. Plan for National/Regional Parks.	Nos.	—	—	—	1
11. Urban Development Plans ..	Nos.	3	12	9	9
12. Outline Development Plans ..	Nos.	—	—	1	8
13. Regional Development Plans ..	Nos.	—	4	1 Plan 20%	11
14. Urban Water, Sewerage & Drainage	Urban Areas.	23	45	56	60
15. Rural Water Supply :					
(*i*) East Pakistan	Nos. of Tube-wells	1,00,000	1,60,000	1,64,000	1,80,000
(*ii*) West Pakistan	Nos. of Villages.	103	400	473	500
16. Urban Residential Plots ..	Nos.	1,50,000	1,30,000	2,30,000	1,20,000*
17. Industrial Workers Housing Units	Nos.	—	—	—	18,500
18. Rapid Transit System for Metropolitan Regions.	Nos.	—	—	—	9

* Additional.

TABLE II

Benchmarks and Physical Targets for the Third and Fourth Five-Year Plans in Physical Planning and Housing Sector

EAST PAKISTAN

Sub-Sector/Item	Units	Benchmark for the Third Plan 1964-65	Targets for the Third Plan 1969-70	Benchmark for the Fourth Plan 1969-70	Target for the Fourth Plan 1974-75
1. Provincial Deptt. for Physical Planning & Housing.	Nos.	—	—	—	1
2. House Building Corporation ..	Nos.	—	1	—	1
3. Building & Housing Research Centre.	Nos.	1 Centre 30%	1 Centre	1 Centre 60%	1 Centre 100%
4. Public Health Engineering Laboratories & Institutes.	Nos.	—	1	2	2
5. Outline Development Plan ..	Nos.	—	—	—	5
6. Urban Development Plan ..	Nos.	3	—	3	5
7. Regional Development Plan ..	Nos.	—	3 plans	—	3
8. Provincial Outline Development Plan.	Nos.	—	1 plan	1 plan (20%)	1 plan (100%)
9. Planning & Development of a New Town in North Bengal.	Nos.	—	—	—	1
10. Urban Water, Sewerage & Drainage.	Urban areas	9 Urban areas	20 Urban areas	21 Urban areas	30 Urban areas
11. Rural Water Supply	No. of Tubewells	1,00,000	1,60,000	1,64,000	1,80,000
12. Urban Residential Plots ..	Nos.	56,000	50,000	91,800	60,000*
13. Mass Transit System for Metropolitan Region (Dacca, Chittagong and Khulna).	Nos.	—	—	—	3

* Additional.

TABLE III

Benchmarks and Physical Targets for the Third and Fourth Five-Year Plans in Physical Planning and Housing Sector

WEST PAKISTAN

Sub-Sector/Items	Units	Benchmark for the Third Plan 1964-65	Targets for the Third Plan 1969-70	Benchmark for the Fourth Plan 1969-70	Targets for the Fourth Plan 1974-75
1. Deptt. for Physical Planning & Housing.	Nos.	—	—	—	3
2. House Building Corporation ..	Nos.	—	1	—	2
3. Building & Housing Research Centres. ..	Nos.	1 Centre 30%	1 Centre	1 Centre 60%	3 Centres
4. Public Health Engineering Laboratories and Institute.	Nos.	—	2	2	6
5. Urban Development Plans ..	Nos.	—	12	6	4
6. Outline Development Plans ..	Nos.	—	—	1	3
7. Regional Development Plans ..	Nos.	—	1	1 Plan 20%	6
8. Urban Water, Sewerage & Drainage.	Urban areas	14	25	35	30*
9. Rural Water Supply	No. of Villages	103	400	473	500
10. Urban Residential Plots ..	Nos.	94,000	80,000	1,38,200	60,000*
11. Mass Transit System for Metropolitan Regions (Karachi, Hyderabad, Multan, Lahore and Peshawar).	Nos.	—	—	—	5

*Additional.

TABLE IV

Benchmarks and Physical Targets for the Third and Fourth Five-Year Plans in Physical Planning and Housing Sector

CENTRE

	Units	Benchmark for the Third Plan 1964-65	Targets for the Third Plan 1969-70	Benchmark for the Fourth Plan 1969-70	Target for the Fourth Plan 1974-75
1. Pakistan Centre for Regional & Urban Development, at Karachi and Dacca.	Nos.	—	1	—	1
2. Saving and House Loans Bank ..	Nos.	—	2	—	1
3. Regional Development Plans	Nos.	—	—	—	2
4. Regional Development Plan for Federal Capital Area.	Nos.	—	—	—	1
5. National Development Plan for Tourism.	Nos.	—	—	—	1
6. Regional Development Plans for Tourism.	Nos.	—	—	—	4
7. Development Plan for National/ Regional Park.	Nos.	—	—	—	1
8. Industrial Worker's Housing Units in East Pakistan.	Nos.	—	—	—	7,500
9. Industrial Worker's Housing Units in West Pakistan.	Nos.	—	—	—	11,000
10. Rapid Transit System for Federal Capital Region.	Nos.	—	—	—	1 50%

TABLE V

Financial allocations and expected implementation for the Third Plan period and allocations for the Fourth Five-Year Plan in the Physical Planning and Housing Sector.

PAKISTAN

(Million Rupees)

Sub-Sector	Allocation for the Third Plan	Expected Implementation in the Third Plan	Fourth Plan Allocation
1. Basic Development	69.40	19.662	70.00
2. Regional Planning and Development	—	—	75.00
3. Housing :			
Slum Improvement and Low Income Housing and Industrial workers Housing	340.60	166.509	665.00
Advances to Government Servants for House Building	26.00	30.500	—
4. Community Services and Utilities :			
Urban Water Supply, Sewerage and Drainage	593.49	290.618	1113.00
Rural Water Supply	85.90	51.520	200.00
*Metropolitan and Urban Transport	—	—	120.00
Regional and Community Parks	—	—	10.00
Fire Services	35.00	18.340	50.00
5. Public Servants Housing	179.40	288.247	334.0
6. Government Offices and Building	233.48		188.00
7. Aid to Local Bodies	336.26	243.374	410.00
8. Tourism	—	—	15.0
9. Special Areas :			
States and Frontier Regions	7.59	5.560	45.00
Azad Kashmir, Gilgit and Baltistan	13.86	9.088	
10. New Capital at Islamabad	420.00	381.830	290.00
11. Second Capital at Dacca	120.00	120.690	210.00
12. Miscellaneous	15.85	10.008	
	2,476.83	1,636.276	3,795.00

*This Sub-Sector during the Third Plan was provided under the Transport and Communication Sector which would be dealt under the Physical, Planning and Housing Sector during the Fourth Plan. Therefore, Third Plan Allocation and implementation for this Sub-Sector are shown in the T. & C. Sector.

TABLE VI

Financial allocations and expected implementation for the Third Plan period and allocations for the Fourth Five-Year Plan in the Physical Planning and Housing Sector.

EAST PAKISTAN

(Million Rupees)

	Sub-Sector	Allocation for the Third Plan	Expected Implementation in the Third Plan	Fourth Plan Allocation
1.	Basic Development	27.00	11.352	30.0
2.	Regional Planning and Development	—	—	55.0
3.	Housing :			
	Slum Improvement and Low Income Housing.	188.00	110.393	360.0
4.	Community Services and Utilities :			
	(*i*) Urban Water Supply, Sewerage and Drainage.	343.40	196.707	620.00
	(*ii*) Rural Water Supply	40.00	27.922	150.00
	(*iii*) Metropolitan and Urban Transport ..	—	—	60.0
	(*iv*) Regional and Community Parks	—	—	5.00
	(*v*) Fire Services	35.00	18.450	50 0
5.	Government Servants Housing	60.00	141.385	154.0
6.	Government Offices and Buildings	109.17		73.0
7.	Aid to Local Bodies	190.00	129.361	343.0
8.	Miscellaneous	15.85	5.675	—
	Total ..	1,008.42	641.245	1,900.0

*This Sub-Sector during the Third Plan was provided under the Transport and Communication Sector which would be dealt under the Physical Planning and House Sector during the Fourth Plan. Therefore, Third Plan allocation and implementation for this Sub-Sector are shown in the T. & C. Sector.

TABLE VII

Financial allocations and expected implementation for the Third Plan period and allocations for the Fourth Five-Year Plan in the Physical Planning and Housing Sector.

WEST PAKISTAN

(Million Rupees)

Sub-Sector	Allocations for the Third Plan	Expected Implementation in the Third Plan	Fourth Plan Allocations
1. Basic Development	22.40	6.578	15.0
2. Regional Planning	—	—	17.0
3. Housing :			
Slum Improvement and Low Income Housing.	152.60	56.116	165.0
4. Community Services and Utilities :			
(*i*) Urban Water Supply, Sewerage and Drainage.	250.09	93.911	493.0
(*ii*) Rural Water Supply	45.90	23.598	50.0
(*iii*) *Metropolitan and Urban Transport ..	—	—	60.0
(*iv*) Regional and Community Parks	—	—	5.0
5. Government Servants Housing	59.40	71.245	80.0
6. Government Offices and Buildings	60.31		48.0
7. Aid to Local Bodies	146.26	114.013	67.0
8. Special Areas	2.36	0.368	—
Total ..	739.32	365.829	1,000.0

*This Sub-sector during the Third Plan was provided under the Transport and Communication Sector which would be dealt under the Physical Planning and Housing Sector during the Fourth Plan. Therefore, Third Plan allocation and implementation for this Sub-sector are shown in the T. & C. Sector.

TABLE VIII

Financial allocations and expected implementation for the Third Plan period and allocations for the Fourth Five-Year Plan in the Physical Planning and Housing Sector.

CENTRE

(Million Rupees)

Sub-Sector	Allocation for the Third Plan	Expected Implementation in the Third Plan	Fourth Plan Allocations
1. Basic Development	20.00	1.732	25 00
2. Regional Planning and Development	—	—	3.00
3. Industrial Workers Housing	—	—	140..0
4. Advances to Government Servants for House Building	26.00	30.500	—
5. Public Servants Housing	60.00	75.617	100 0
6. Government Offices and Buildings	64.00		67.00
*7. Tourism	—	—	15.00
Special Areas :			
8. States and Frontier Regions and Tribal Areas ..	7.59	5.560	25.00
9. Azad Kashmir, Gilgit etc.	11.50	8.720	20.0
10. Miscellaneous	—	4.333	—
11. New Capital at Islamanad	420.00	381.830	290.00
12. Second Capital at Ayub-Nagar	120.00	120.690	210.00
Total ..	729.09	628.982	895.00

*This Sub-Sector during the Third Plan was provided under the Transport and Communication Sector which would be dealt under the Physical Planning and Housing Sector during the Fourth Plan. Therefore, Third Plan allocation and implementation for this Sub-Sector are shown in the T. and C. Sector.

CHAPTER 25

SCIENTIFIC AND TECHNOLOGICAL RESEARCH

The first part of this chapter deals with research in physical sciences and technology; part II concerns itself with the research work planned in social sciences during the Fourth Plan.

RESEARCH IN PHYSICAL SCIENCES AND TECHNOLOGY

Although the impact of global scientific advancement on socio economic development has been experienced by all nations, its contribution to the increase of wealth and prosperity has been generally confined to those countries which have consciously nourished scientific education and research as a part of their national policy.

During the earlier years of her existence Pakistan had meagre scientific and technological resources and had to rely largely on borrowed technology for her development. Under sueccsive development plans more and more people were trained in modern techniques and scientific know-how became increasingly availabe. Time has now come when Pakistan will have to lay greater stress on scientific research than ever before if it has to establish a place for itself in the comity of developed nations. Therefore, a separate chapter exclusively devoted to scientific and technological research has been included in the Fourth Five Year Plan.

Objectives of Scientific and Technological Research:

With limited resources Pakistan cannot afford to undertake research on problems which have either already been solved or whose solutions are of little practical value to her economy. We should, therefore, draw upon the vast pool of declassified scientific knowledge that has accumulated in the developed countries as a result of their investment over the past many years. This will necessitate the establishment of a sizeable Scientific Information Centre capable of disseminating the results of researches done elsewhere. In many areas, the results of research already available in existing scientific literature can be " adapted or adopted " to suit the conditions prevailing in Pakistan.

To achieve optimum results, research activity during the Fourth Plan will be conducted in the light of an overall national science policy with the following aims and objectives :—

(*i*) Careful selection of the problems facing the country in each sector whose solution will have a significant impact on the economic development of the country.

(*ii*) Establishment of first-rate scientific institutions where researches can be done on the selected problems of national importance and Strengthening of the existing institutions.

(*iii*) Remoulding of scientific education at all levels—from the school to the university.

(*iv*) Training of the top-research personnel and scientific staff required to man the research institutions.

(*v*) Organisation of bodies which may be entrusted with the responsibility of directing a well-defined programme of research and a scientific establishment placed under their charge.

(*vi*) Institutional arrangements for the utilization and exploitation of proven processes should be improved.

In pursuing these objectives, the programmes of basic research and applied research will have to be carefully drawn up. While Basic Research is intrinsically open-ended with a free time programme aiming to seek fuller knowledge or understanding of the subject under study, the applied research is directed towards the practical application of the results of basic research which could lead to development and production of useful materials and devices, methods and processes in agriculture, industry, medicine and other allied fields. A major part of the whole research programme will, however, be directed towards applied research.

In doing so, the research workers engaged in the Government laboratories/centres/institutes should establish an adequate caontact with higher educational and technological institutions and with industrial establishments so that the facilities in Government agencies and in higher educational and technological institutions can be utilized by a larger number of research workers to promote research, design and development within or in collaboration with industrial, agricultural and medical establishments in both public and private sectors. It will also be necessary for scientists in Government and other research agencies to participate in the activities of educational and technological institutions.

Past Performance in Scientific Research

" As a result of the researches carried out by the various laboratories of the Pakistan Council of Scientific and Industrial Research, a large number of processes have been evolved. Some 67 processes have already gone into production, about 96 processes are ready to go into production and 23 processes are ready for being leased out. According to the information provided by the PCSIR, new processes accounted for manufactured goods of an annual value of Rs. 12.37 million in 1969 which is expected to increase tc Rs. 20.84 million latter in 1970. Foreign exchange saving as a result of this local production was estimated to be of the the order of Rs. 6.4 million last year ".

" In the Agriculture Sector, research programmes mainly concentrated on crop production as a result of which a number of high yielding varieties have been evolved paticularly in respect of wheat, rice sugarcane, jute and cotton. A large number of dwarf and stiff stemmed wheat varieties responsive to large dozes of fertilizers have been imported from abroad and introduced. The exotic varieties have also been cross-bred with local varieties to evolve strains capable of giving high yield of quality grains under local conditions. The large scale adoption of these varieties by the farmers has made substantial additions in wheat production in West Pakistan. Similarly introduction of rice varieties selected out of IRRI varieties brought from the Philipines and bred within the country has brought about promissing results in rice production in East and West Pakistan. The prolonged research on cotton crop has resulted in the evolution of a number of long staple varieties. The Pakistan Central Jute Committee has also evolved new Jute varieties which are higher yielding than the conventional ones. New varieties of sugarcane and maize crops have also been evolved and further research is in progress. A comprehensive project for rapied soil fertility experiments on various crops and for reconnaissance soil survey was undertaken, which has provided the basic data for increasing land productivity and efficient use of fertilizers ".

" In the field of atomic energy, basic research in nuclear materials, nuclear physics and reactor technology, nuclear chimistry, nuclear engineering and electronics was taken up at PINSTECH, the first phase of which has been empleted ". The country's requirements of radio active isotopes for researeh in different fields like agriculture and industry are being met by this Institute. Atomic Research programmes for developing better varieties of crops, pest control throgh irradiation and research programmes in the field of medicine were also initiated by Atomic Energy Commission during the Third Plan.

In the Health sector, the research programme undertaken so far related to cardio and vescular diseases, liver diseases, tuberculosis, diseases of gastro intestinal tract, malignent diseases, communicable diseases and perasitic diseases. Substantial survey and research work has also been carried out relating to nutritional standards in the country.

In the Water Sector, research facilities at the Hydraulic Research Laboratories in East Pakistan and the Irrigation Research Institute in West Pakistan were considerably expanded and provided with modern equipment. These laboratories conducted research on irrigation and flood problems. The problems of salinity and water-logging in West Pakistan were tackled at the experiment stations of the Land Reclamation Directorate. This was in addition to the huge project oriented research programme of surveys, investigations and geological borings and feasibility studies which led to the undertaking of many engineering projects in the Water sector.

In the Physical Planning and Housing sector, work on the establishment of Building Research Stations at Dacca and Lahore which was initiated under the Second Plan was continued under the Third Plan. These stations have been properly equipped and have started research programmes. The work so far undertaken at these stations has been restricted to devising a few building construction specifications so as to remove wastage of building material and effect savings in the cost of construction.

In the Transport and Communications sector, a Road Research Laboratory at Lahore has been working on research problems in devising methods for more economic road construction using material locally available in the various regions of West Pakistan.

RESEARCH PROGRAMMES DURING THE FOURTH FIVE YEAR PLAN

During the Fourth Plan, scientific research programmes, will be carried out through the agencies of the Provincial Governments, the Universities and the Research Councils set up on the recommendations of the Scientific Commission made in 1962. Some of the Provincial Departments have set up their own research institutes while other executing agencies of the Provincial and Central Governments carry out specific field research programmes through their field experimentation units. A list of the national problems for research during the Fourth and the the forthcoming Plans identified by the National Science Council is attached as Appendix I. The major Research Programmes are discussed below :

Scientific and Industrial Research

The broad fields of activity proposed to be covered in the programme of the PCSIR for the Fourth Plan period are natural products, leather, food, glass ceramics, mineral fuels, chemicals, drugs, engineering, cotton and jute textile. In formulating these proposals, the PCSIR has given due consideration to the availability of raw material—indigenous ores particularly antimony and iron ore available as low grade ore yet remain to be beneficiated. Similarly, the glass and ceramic industry can receive a sizeable boost from improvement in the quality of raw material and better techniques of manufacture. The utilization of indigenous low-grade coal to effective use, the utilization of natural gas as a substitute for petrol and diesel oil in cars, the improvement in the quality of leather thus increasing its export potential, the diversified use of jute because of its keen competition with synthetic and other natural fibres, the improvement in the quality of cotton textiles to compete in the highly competitive international market and the improvement in the woollen fibre are some of the objectives for which the PCSIR plans to work by building up sizeable research facilities in its institutes.

Agricultural Research

The break through in agriculture and the attainment of near self-sufficiency in foodgrains has been to a great extent the result of research in evolving and introducing new wheat, rice and maize varieties during the Third Plan. A number of new varieties of other important crops like sugarcane possessing the characteristics of early maturity, high yields and resistence to pests and diseases have been evolved. There is still much scope for new research to protect the advancement made and make further improvement. New disease and pest resistant varieties of crops like wheat, rice and maize have to be evolved. In East Pakistan, more research is needed to develop rice varieties with resistence to flood and rain and having higher production potential. Research is also to be planned to evolve varieties of export quality. Priority has to be given to improve milling, cooking and flavour quality.

After having achieved remarkable success in wheat and rice production, it is now necessary to introduce a similar programme for other crops like pulses, oil-seeds, vegetables and fruits etc. in which Pakistan is deficit. Agricultural must largely be production oriented.

The West Pakistan livestock Production Research Institutue at Bahadarnagar and the Veterinary Research Institute at Lahore have concentrated their activities mostly on breeding of live-stock and research on foot and mouth diseases respectively. Facilities for research work at these institutes need to be extended during the Fourth Plan. "A Veterinary Research Institute and a Section for production of biological products in East Pakistan will also be set up in the Fourth Plan. The work on livestock breeding being carried out at Sawar Farm (East Pakistan) during the last decade will be further improved and strengthened during the Fourth Plan period ".

Regarding fisheries facilities for oceanographic research and research on processing fish and shell fish have been developed within the country. Research vessesls for exploring deeper off-shore waters are prevently under construction and will be completed during the Fourth Plan. Biological and technological facilities are being developed and research on important problems will be pursued during the Fourth Plan.

In the forestry sub-sector of agriculture, facilities for carrying out research in various fields of forestry and forest products at the Peshawar and Chittagong Institutes will be expanded particularly the research on quick growing species, adoption of exotic species and watershed management. In addition, the results of research carried out so far will be consolidated.

The Agricultural Research Council has drawn up a comprehensive research scheme for the establishment of a Humid Zone Research Institute in East Pakistan where research will be carried out in land and water use, agricultural economics, tropical fruits plant introduction, animal diseases and nutrition, and some problems of fish culture related to crop production. " A similar Institute for Arid Zone Research for West Pakistan with sub-stations has been proposed to tackle problems of dry farming, land and water use, animal production and range management in arid and rainfed areas ".

Research in the Water Sector

Research in the field of irrigation has been carried out at the Irrigation Research Institute, Lahore and E. P. WAPDA's Hydraulic Research Laboratories at Dacca. During the Third Plan, these laboratories were expanded and provided with modern equipment. During the Fourth Plan an extensive and intensive research programme is planned at these laboratories in the fields of hydraulics,

river models, ground water, its exploitation, movement and potential, hydrology soil physics and soil mechanics. Research on some problems of integrated and complex nature that are of vital national importance will be intensified at the Irrigation Research Institute, Lahore. These pertain to the design of hydraulic structures, spurs, channel regime conditions and sediment control, navigation in channels, waterlogging and its control, evapo-transpiration from crops, canal lining materials etc. Further, the research programme on channel regime conditions will be continued and the application of radio isotope technique for the solution of problems in irrigation will also be completed during the Fourth Plan. The land reclamation studies will be carried out at the experiment stations of the Land Reclamation Directorate of the Irrigation Department. In East Pakistan, the problem of floods has assumed menacing proportions. It is proposed to establish a flood Control Research Institute in East Pakistan to provide facilities for studies connected with construction of embankments along major rivers and river behaviour to be studied on a hydraulic model. In addition, the following research programmes are planned by the Irrigation Drainage and Flood Research Council during the Fourth Plan :

1. " To set up two Institutes of hydrology, one in each wing to deal with the problems of basic surface water hydrology and ground water hydrology. Another function of these institutes would be to standardise techniques of measurement, improve the efficiency of the measuring instruments and impart training to senior hydrologists".

2. Studies on the reclamation of saline and alkaline lands, design of drainage facilities, determination of the crop water requirements, development of salt resistant crops and establishing soil water and plant relationship are planned to be carried out at an " Institute of land and Water Uses Research " proposed to be set up during the Fourth Plan in West Pakistan.

3. An Arid Zone Research Institute in West Pakistan and a Humid Zone Research Institute in East Pakistan are also proposed. These Institutes will be concerned more with agro-engineering aspects of research rather than purely agricultural aspects as the latter will be covered in the Agriculture Sector.

The Meteorological Department and the Survey of Pakistan will also embark upon research programmes. The meteorological department's programme includes establishment of First Class Observatories, Storm Surge and Flood Forecasting Units at Dacca, Storm Warning Radar Station at Khulna, Wind Finding and Weather Surveillance Radar Stations, Aero-met Stations, Electronic Data Processing Centre, Pilot Balloon Stations, Seismic Observatories, Data Processing Units at Sub-Regional Research Centres, and installation of Remote-Recording Equipment at Aerodromes. The research programme of the Survey of Pakistan includes the establishment of an Astronomical Observatory and development of Survey Resources for National Projects.

Research in Health and Medicine

Research in the field of health and medicine has been directed to problems peculiar to Pakistan to find out effects of special factors that may be complicating health conditions in our country. With this end in view, at least one Medical Research Institute will be established in each wing of the country to undertake special studies and research on diseases like Cholera, tuberculosis, cancer, cardiovascular diseases, disbetes, and other problems. Research in these fields should be undertaken immediately even in the existing institutions to determine and develop the methodology of prevention, diagnosis and treatment of the above mentioned diseases.

Research in Neurology and Psychiatry is relatively new which needs to be conducted to prevent our population from developing psychic conditions. Nutrition has already been studied in both the wings of the country but intensified research is necessary to deal with the important aspect of malnutrition of our mass population.

The existing Public Health laboratories should be provided with research facilities to increase the production of sera and vaccines to protect our population from various communicable diseases. Increased production will enable us to earn foreign exchange by exporting sera and vaccines to the adjoining markets in the region.

PHYSICAL PLANNING HOUSING, AND WORKS RESEARCH

Two Building Research Centres at Dacca and Lahore were established during Second Plan in order to develop local building materials, improve the traditional method of construction and introduce new construction techniques such as prefabrication, modular coordination and standardization. These Building Research Centres have not so far made much headway and as such it is proposed to further develop these centres into fulfledged Building and Housing Research Centres. In addition, two new Building and Housing Research Centres at Karachi and Peshawar would also be established for which necessary allocations have been made in the Fourth Plan. It is also proposed to establish two centres for Regional and Urban Development in both the wings of Pakistan to serve the national, regional and local needs in the field of Urban and Regional Planning. These centres will carry out specific projects in Regional Development Research and Training on behalf of Central, Provincial and Local Governments and will also cooperate with the institute of higher education and professional and voluntary organizations and interested industrial, financial and commercial groups in Pakistan in disseminating the results of this work with a view to an early practical application.

Power and Atomic Energy Research

The technology of conventional power generation has practically reached a saturation point and little improvement is foreseen in this sector during the Fourth Plan. In the field of transmission, however, where bulk power is to be despatched over long distances, more research on the type of conductors and hardware to suit local conditions is required. The Government of East Pakistan is contemplating a study to determine the possibility of transmitting power at voltage higher than 132 kv. The West Pakistan W.A.P.D.A. proposes to instal a 500 kv super grid linking Tarbela with Karachi. Due to the presence of humidity and dust particles in southern region from Guddu to Lyallpur, the feasibility of extra high voltage is being studied with the assistance of Soviet Experts. A Research and Test laboratory has been established in West Pakistan at Lyallpur where primarily research would be conducted for transmission equipment under local conditions. This laboratory will further be expanded during the Fourth Plan.

The Pakistan Institute of Nuclear Science and Technology (PINSTECH) will further be developed as a National Centre for nuclear research during the Fourth Plan. The research in the PINSTECH and the Atomic Energy Centres at Lahore and Dacca will be directly connected with the problems of nuclear power generation which will call for the establishment of nuclear power reactors, fuel reprocessing plant, fuel fabrication plants and uranium refining etc. The Atomic Energy Commission is also embarking on a research programme for developing new and better varieties of crops at its Institutes at Lyallpur and Mymensignh for the control of pest and their irrradiation at Tongi (Dacca). In the field of medicine, the Medical Research in the Atomic Energy Medical Centres which have been opened in major cities of East and West Pakistan will be further accelerated.

Transport and Communications Research

The research programme in this sector will be undertaken mainly by different sub-sectoral agencies and the purpose of this programme will be mainly to find out new materials, processes, techniques, specifications and design for new constructions and equpiment manufacture. The problems which will need research for a satisfactory solution are :

(*i*) Ways and means to improve specifications and designs for railwayss tracks, rolling stock, including signalling and telecommunication systems and introducing new techniques such as railway electrification ;

(*ii*) Research concerning progressive manufacture of commercial vehicles in the country ;

(*iii*) Research regarding conservancy of navigable channels, modernisation of pilot vessels and finding new materials for building boats and crafts side by side with the introduction of faster and safer vessels ;

(*iv*) Research in improving the specifications of ships to be manufactured in the Karachi Shipyard ;

(*v*) Strengthening the existing research centre of telephones and tele-communications which is engaged in the applied research for improving existing specifications and techniques in the field of telecommunication;

(*vi*) A Communication Development and Research Project for the Civil Aviation Department to deal with special problems relating to air transport ;

(*vii*) Developing new techniques and specifications for cheaper and durable road construction using locally available materials.

Research in Universities (Education Sector)

In the Education Sector, scientific research will primarily be carried out by different Universities. A lot of basic and fundamental research will be required to be done to arrive at some worthwhile results so that all other Institutions/Laboratories/Agencies engaged in applied research will not necessarily be devoid of basic research. While emphasis in the Institutes and Laboratories will be on applied problems, the bulk of fundamental research work in various fields will remain to be done at the Univerities. Since all the Universities may not be able to finance the basic research on various subject it may be desirable for Universities to specialise in doing research in selected subjects which may be determined jointly by the National Science Council and the Inter-University Board.

"A very large proportion of the available man-power highly trained in various scientific disciplines, is located in the Universities. This talent should be exploited by ensuring that the bulk of the research carried out at the Universities deals with the practical problems in the various fields. In fact, in the case of applied science Universities such as those of Engineering and Agriculture, the research programmes should be so framed as to place a great emphasis on schemes which could help increase the productivity in the relevant sectors of our economy in the shortest possible time".

National Laboratories

In addition to the Research Complex suggested above, it is desirable to establish the following three large national laboratories in each wing :—

(1) *National Research Development and Production Laboratories.*—Thes laboratories would be assigned to design, produce and test speciallised scienctific

instruments of all types required by the Research Institutes Centres, and Universities. They will also have facilities for all types of chemical and analytical processes involving standardisation of materials and also for testing processes evolved in the research institutes and centres on a pilot scale.

(2) *The National Engineering Laboratory.*—It will be primarily responsible for the evolution of designs of machines and mechanical devices, testing of performance of machines of all descriptions and pilot production of equipment of all kinds for industries.

(3) *The National Health Laboratory.*—The existing National Health Laboratories at Islamabad should be expanded during the Fourth Plan so as to increase the production of sera and vaccines and also undertake research on new problems.

RESOURCES FOR SCIENTIFIC AND TECHNOLOGICAL RESEARCH DURING THE FOURTH FIVE YEAR PLAN

In view of the country's limited financial resources, research programmes for the Fourth Plan have to be carefully drawn out. Whereas under-provision for scientific research programmes during the Fourth Plan will not be desirable, over-provision might mean blocking resources for the speedy completion of the development projects which have been firmed up on the basis of past research. The proposed Public Sector outlay for scientific research programmes in the Fourth Plan under the various sectors is shown in Appendix II.

In addition, a sizeable amount will be invested in project oriented engineering and geological surveys and investigations and feasibility studies for scientific and technological development in Pakistan. If allocations for such programme is included, the total outlay for scientific research as shown in Appendix II would increase considerably.

Private Sector

In financing a national programme for Scientific Research, the public sector alone cannot and should not play the entire role. Bulk of the benefits of applied industrial research will be reaped by the industry in the private sector which should contribute a sizeable share towards the total expenditure on industrial research and development. The private sector will, therefore, need to play a more prominent role in contributing towards research and development programmes during the Fourth Plan.

NEED FOR ADMINISTRATIVE RE-ORGANISATION AND UTILISATION OF TRAINED MANPOWER

The greater emphasis on scientific research during the Fourth Plan will necessitate a change in the existing organisational set up of the various research bodies functioning in Pakistan. The re-organised set up will have to ensure that :

(*i*) research and development promotes fuller utilisation of indigenous materials and stimulates competitive efficiency of production ;

(*ii*) the instruments, equipment and accessories required for research and industrial purposes can be manufactured within the country as rapidly as possible ;

(*iii*) complete coordination is established between various reaseach organisations so that duplication in research work is avoided and the work of the different Institutes, Centers/Stations is supplementary or complimentary to one another and not overlapping ;

(*iv*) scientific research becomes sufficiently attractive to men of talent and ability by providing these professional men with salaries and status in society according to the importance of the work they undertake.

It is maintained that Pakistan has a shortage of technically trained men at all levels particularly at the level of Directors of Research and Group Leaders ; yet many Pakistani scientists including engineers and doctors continue to take posts abroad every year. Administrative re-organsiations should look into this aspect of the problem to stop this brain-drain which Pakistan can only ill-afford. On the other hand, if sufficient job opportunities at apporpriate levels cannot be found for men of talent both in the public and private sectors, obstructing their temporary migration to other countries would amount to mere creation of economic problems and frustration among the highly educated calss of our society. It therefore, seems necessary to constitute an autonomous body at the national level for the purpose of :

(*a*) Coordination of scientific research and development activities of the various institutions in the country, particularly the Universities, the specialised autonomous research institutions and the scientific departments and agencies of the Central and Provincial Governments.

(*b*) Framing the national science policy, fixing interse priorities, reviewing the results of research and advising the various ministries of the Central Government and Provincial Departments connected with R & D in the country.

(*c*) Maintaining international liaison with learned bodies and academies and with specialised agencies of the United Nations concerned with scientific education and research.

(*d*) Establishment of a chain of scientific information centres and libriares throughout the country for dissemination of knowledge and provision of reference material for the scientific workers and institutions engaged in research and development activities.

(*e*) Establishment of a scientific bureau of translation with branches in East and West Pakistan which would undertake and authenticate the translation of all important scientific books of reference and modern literature in the national and regional languages of Pakistan.

(*f*) Compilation of standard internationally accepted scientific terms, numerals, notations, and symbols to be adopteed in the books and literature on scientific subjects dealt within the National and regional languages.

(*g*) Compiling and maintainig an up to date record of the scientific manpower of the country.

(*h*) Taking such steps which are necessary for and conducive to the promotion of scientific research and development in the country.

(i) Taking suitable measures for bringing back Pakistani scientists working abroad by creating suitable positions for them within the country.

(j) To sponsor and encourage the setting up of National Museums of Science and Technology in conjunction with various Research Councils.

"The institutional arrangements for the exploitation of the results of research particularly in the industrial field will have to be strengthened in order to ensure that the research is immediately utilised for commercial production".

These functions should be entrusted to the National Science Council which should be re-constituted to give it a more representative character.

The Government may also consider creating a fund with the Universities in Pakistan that are connected with scientific research. This fund should be utilized in temporarily absorbing all Pakistani scientists with Ph. D., degrees on their return from abroad. They should continue to work in their own fields in the various Universities and be adequately paid from this Fund till such time that they can find suitable jobs for themselves in the Government or in the private sector. This arrangement should encourage most of our post-graduate workers abroad to return to Pakistan.

If Pakistan has to achieve scientific and technological advancement and develop its own know-how in the various fields, concerted action by the Government in providing due status and salaries to the professional men including scientists, engineers, doctors and technicians will be required during the Fourth Plan.

Appendix I

LIST OF NATIONAL PROBLEMS FOR SCIENTIFIC RESEARCH DURING THE 4TH PLAN

Agriculture

1. Wheat Research.
2. Rice Research.
3. Maize and Coarse Grain Research.
4. Jute Research.
5. Cotton Research.
6. Sugarcane Research.
7. Tobacco Research.
8. Tea Research.
9. Fruit and Vegetable Research.
10. Genetics and Plant Breeding.
11. Entomolgy and Plant Pathology.
12. Soil Science.
13. Forest Research.
14. Dairy Research.
15. Animal Husbandry Research.
16. Veterinary Research.
17. Poultry Research.
18. Fisheries Research.
19. Arid Zone Research.
20. Humid Zone Research.

Health

21. Cholera Research.
22. Malaria Research.
23. T. B. Research.
24. Leprosy Research.
25. Cancer Research.
26. Neurology and Psychiatry Research.
27. Cardiovascular Research.
28. Infectious Diseases Research.
29. Diabetes Research.
30. Nutritional Research.
31. Serology-production and Research in Sera and Vaccines.
32. Population Control Research.

Industry

33. Cotton Textile Research.
34. Jute Textile Research.
35. Wool Textile Research.
36. Food Technology, Preservation, Protein, New Food & Packaging.

37. Fuel Technology.
38. Glass, Ceramics & Cement.
39. Leather Research.
40. Minerals Research.
41. Drugs, Pharmaceuticals & Tropical Products Research.
42. Agro-Chemical Research.
43. Research Production and Development.
44. Biochemical Research.
45. National Research :
    - (*a*) Mechanical Engineering.
    - (*b*) Electrical Engineering.
    - (*c*) Chemical Engineering.
    - (*d*) Machine Tools Engineering.
    - (*e*) Scientific Instruments Engineering.
    - (*f*) Agricultural Engineering.

Irrigation

46. Flood Control Research.
47. Hydrological Research.
48. Land Reclamation Research.
49. Arid Zone Research.
50. Humid Zone Research.

} Agro-Engineering aspects.

Physical Planning, Housing and Works

51. Building and Housing Research.
52. Regional and Urban Development Research.

Transport and Communication

53. Road and Bridge Research.
54. Research for improving rolling stock, tracks, and operation in Railways.
55. Research on Inland Water Transport design and material including waterways.
56. Research concerning progressive manufacture of commercial Vehicles and equipments (both Road and Water Transport).
57. Research in improving the design and specifications of ships to be manufactured in shipyards.
58. Research for improving operations of Ports and introducing containerisation.
59. Research for improving tele-communication system.
60. Development research project for civil aviation.

Atomic Energy

61. Research in Nuclear Science and Technology.
62. Research in Electronics.
63. Research in Solar Engery.

Meteorloogy

64. Research in Bio-meteorology including Water Research.
65. Research in Geo-physics and Seismology.

Statistics

66. Statistical Research.

Appendix II

SECTORAL ALLOCATIONS FOR SCIENTIFIC RESEARCH DURING THE FOURTH FIVE YEAR PLAN

(Rupees in Million)

Sub-sectors	
1. Agriculture	265.70
2. Power..	37.00
3. Industry	150.00
4. Health	10.00
5. Water	142.00
6. Physical Planning & Housing	25.00
7. Communications & Transport	78.20
8. Scientific Researches at Universities	30.00
9. Family Planning	15.00
Total ..	752.90

CHAPTER 26

EAST PAKISTAN'S PROGRAMME

Review of the Third Plan

1. The regional development strategy of the Third Plan postualated agrowth rate of -7 percent per annum for the Gooss Regional product of East Pakistan giving an increase of 40 percent over the plan period. The actual experience, however was substantially different. The average annual growth rate in East Pakistan, is currently estimated at around 4 percent. The provisional estimates for 1969-70 indicate that the gross regional product of East Pakistan had increased in the Third Plan Period by only 22 percent over the base figure. Since the population is growing at a rate of about 3% per annum, per capita income increased by about 1% per annum, during the Third Plan period.

2. A major factor in slow growth in East Pakistan has been the behaviour of agriculture sector which accounted for 55% of the regional product of East Pakistan during the Third Plan period. Although some success was achieved in increasing output of ' Boro ' crop (winter rice), its weight remained small in the total rice production. Similar increase could not be achieved in the two major crops *viz* " Aus " and " Aman " (rain-fed summar ad autumn rice). These were frequently affected by floods and drought. New varieties of seeds were also not yet available which could be used with irregular water supply during monsoon.

3. The second important factor was a serious shortfall in investment. Against a plan target of Rs. 16,000 million for the public sector in East Pakistan, investment would be around Rs. 11,300 million. If correction for price increase of investment goods during the Third Plan were made, the shortfall would be still larger. The extent of shortfall was magnified by the fact that certain development agencies unable to increase their revenues, used a part of their goss allocation for development for servicing the past debt.

4. The shortfall was due to a general pressure on resources arising from a lower than expected inflow of foreign assistance and the need to provide for a larger defence effort. While East Pakistan's share in the total development spending was protected, it had to absorb equally its part of the 28 percent total shortfall in public sector development expenditure.

5. The performance of private sector was every unsatisfactory Against a target investment of Rs. 11,000 million, actual private investment would not exceed Rs. 5450 million, that is, less than 50% of the target. To begin with, the allocation was highly ambitious probably to the point of being unrealistic. Secondly, the development of a special policy package for endcouraging private investment in East Pakistan was considerably delayed. In fact some of the measures adopted after the 1965 war to maintain monetary stability and to channel private investment in high priority industries discouraged the growth of nascent enterprise in less developed regions. Further, procedural difficulties and long delays in obtaining required foreign exchange and permission discouraged the relatively small investors of East Pakistan, while the steady increase in the cost of imported capital goods and raw materials occasionally led to cancellation of investment plans by the investors.

6. The ratio of investment to Gross Provincial Product declined in West Pakistan from 21% in 1964-65 to less than 18% in 1969-70. In East Pakistan it remained constant at arround 13% over the same period. The investment was not sufficiently large in East Pakistan to make the desired impact. With the normal time lags and diffusion of investment over a large number of incomplete projects, growth rate showed virtually no improvement. West Pakistan, supported by a break-through in agriculture, and a high rate of private investment protected its growth rate of 6 percent. Thus contarary to the expectation of a more rapid growth in East Pakistan reducing disparity, the previous growth pattern of the two regions continued, and the disparity in per capita incomes between the two regions widened.

7. Further, as a result of slow growth in investment and G.R.P. in East Pakistan, the employment situation worsened, the per capia availability of essential commodities declined and the price of the essentials increased.

Fourth Plan strategy and programmes

8. Against this background of the Third Plan experience, the Fourth Plan has a crucial role to play in accelerating the economic growth of East Pakistan. Serious efforts are being made to place the economy on a desirable growth-path by undertaking a much bigger investment programme. A total programme of Rs. 39,400 million, is therefore, being proposed for East Pakistan within a plan size of Rs. 75,000 million.

9. The proposed allocation for the programme of Rs. 39,400 million between public and private sectors is as follows :—

	(Million Rupees).
(*i*) Public Sector	27,900
(*ii*) Outside Plan (Flood Control)	1,500
	29,400
(*iii*) Private Sector	10,000
..	39,400

10. The above pattern of allocation constitutes a decisive step in accelerating the rate of investment in East Pakistan. The share of East Pakistan will rise from 37% in the implemented Third Plan to 52.5% in the Fourth Plan implying an edge of Rs. 3,800 million in the &Public and Private Sectors taken together. In the final year of the plan total development expenditure in East Pakistan will exceed 54%.

11. The development expenditure in East Pakistan in the public sector will increase from 11,300 million in the Third Plan to Rs. 29,400 million in the Fourth

Plan registering an increase of 160%. This will mean that East Pakistan will have an edge of Rs. 9,800 million in the public sector over the four provinces of West Pakistan and an overall share of 60%. During the Third Plan East Pakista implemented a develop'ent programme in the public sector which was Rs. 2,400 million less than that spent in West Pakistan including Indus Basin expenditure.

12. Private investment is proposed to virtually double over the Fourth Plan period rising from Rs. 5450 million in the Third Plan to Rs. 10,000 million in the Fourth Plan. This is backed by a strong policy package designed to encourage private investment in East Pakistan. The measures have already been announced and are expected to produce the desired results.

13. The annual acceleration in the total development expenditure in East Pakistan during the Fourth Plan will be about 19%. The ratio of investment to GRP will increase from 13% in 1969-70 to 22% in 1974-75. This would compare with an investment ratio of 16 per cent in West Pakistan in the final year of the Fourth Plan.

14. The higher ratio of investment is no doubt necessary in East Pakistan to attain the plan ojective orf redressing inter-regional disparity in *per capita* income as also to achieve equitable distribution of economic benefits to various regions and provinces through a more balanced development effort. Yet, large investment alone would not achieve the projected growth target in East Pakistan or redress economic disparity at the rate visulalised. The following additional factors and elements must receive greater attention if the objective of realising the projected growth target is to be made :—

A. Critical growth points in Agriculture and promising sub-sectors in Industries must be identified and exploited vigrously to achieve rapid growth and ensure the best use of resources.

B. The programme of administrative decentralisation for the implementation of development plan to expedite the process of project preparation and create a greater sense of responsibility among the provincial Planning Department and the implementing agencies to show promised results, must be undertaken.

C. A concerted drive to identify and prepare additional projects for aid negotiations must be launched to ensure that an adequate protfolio of aid worthy projects is available for aid negotiations. Unless this is done, the expected increase in the flow of external resources to East Pakistan implicit in the proposed allocation will not be realised.

D. The efficiency and organisation of Public corporations must be improved substantially to ensure that the additional investment proposed for East Pakistan yields adequate return and helps to achieve the desired economic and physical targets.

E. Measures to activise the private sector in East Pakistan must be taken expeditiously to ensure the projected acceleration in private invstment in industries, agriculture and transport and communications. The bulk of the increase in production expected in the Fourth Plan can come only from the activities of the private sector.

A. Programme Content

15. Prospects of attaining the growth target in East Pakistan will be determined largely by agricultural performance. As such concentrated efforts will be made to boost agricultural output. Sectoral allocations for the public sector is indicated below :—

Fourth Plan Public Sector Allocation for East Pakistan by Provincial and Central Government

	ector	Pro-vincial Alloc - tion	Central Alloca-tion to be spent in East Pakistan	Total	Per-centage Fourth Plan	Distribu-tino 3rd Plan Alloca-tion
1	2	3	4	4	6	7
1.	Food and Agriculture	4,700	190	4.890	16.8	13.8
2.	Water*	,500	40	4.540	16.5	22.0
3.	Power	2,840	400	3,240	11.1	
4.	Industry	3,000	120	3,120	10.7	16.6
	Fuels and Minerals	100	190	290	1.0	
6.	Transport and Communications ..	3,000	1,250	4,250	14.5	19.8
7.	Physical Planning and Housing ..	1,900	430	2,330	8.0	8.2
8.	Education and Training ..	2,230	150	2,380	8.1	8.0
9.	Health	1,400	90	1,490	5.1	4.4
10.	Family Planning	445	15	460	1.6	
11.	Social Welfare	80	30	110	0.4	
12.	Manpower	70	—	70	0.2	
13.	Public Admn. (Training and Research)	—	20	20	0.1	
14.	Rural Development and Works Programme	2,000	—	2,000	6.8	7.2
	Total ..	26,265	2,925	29,190	100.0	100.0
	Unallocable	—	210	210		
		26,265	3,135	29,400		

*Includes outside the Plan allocation of Rs. 1,500 million for Flood Control.

Agriculture

16. It will be seen that in the allocations proposed, priority has been given to agriculture with emphasis on rice production and Flood Control. Alongwith water managment, agriculture sector will absorb around one third of of the total allocation. If we add the Rural Development Programme including rural electrification the share of sgriculture sector in total allocation will be around 40%. Coupled with industrial programme for agriculture-oriented industries *e.g.* fertilizer plant, diesel plant, the allocation for agriculture will be more than 45% of the total outlay.

17. The important programmes for the Fourth Plan in agriculture sector are increasing rice out put by 4 million tons with the help of flood-control measures, irrigation of 4 million additional acres of land by gravity irrigation, 40,000 low lift pumps and 20,000 deep tubewells, stepping up fertilizer distribution programme from 135,000 nutrient tons in 1969-70 to 475,000 nutrient tons in 1974-75 and introduction of improved seeds ; raising production of jute from 7 million bales to 9 million bales ; and tea out put from 70 million lbs. to 90 million lbs.

18. The provision of improved seeds, fertilizer, pesticides and water would no doubt change low productivity subsistance farming into high output market oriented agriculture. Yet because of the unique physical demographic and economic conditions that exist in the province, major improvement in agricultural technology can promote agricultural development only if supported by a strong programme of rural organisation, construction, and water management.

19. Of the rural population in East Pakistan approximately 20% or 13.5 million own one acre of land or less and can be classified as landless. Above this group are the small farmers owing between 1 to 7 acres of land who constitute 70% of the rural population (47.3 million). The final 10% or 6.8 million own more than 7 acres and can be defined as the large land holders. This group also comprises the commercial sector of the rural population which frequently control rural credit and the processing of agricultural goods. Small farmers hold 62% of the actual agricultural land, but their incomes are so low and their landho ldings so small and fragmented that individually they can take very limited advantages of Government services in the fields of seeds, fertilizer, pesticides and water even through the costs of these are subsidised. Since any rural agricultural growth in East Pakistan is dependent upon the small farmers a programme to meet their particular needs nand to provide specific incentive to them is essential.

20. This additional input to agricultural development programme is being called Rural Development and consists of three specific programmes—the Rural Works Programme, the Thana Irrigation Programme and the Integrated Rural Development programme.

21. This programme has three primary objectives :—

(*a*) To create physical facilities necessary for a productive rural economy through the mobilisation of under employed human resources. Creation of employment opporunities for landless labour is essential. This can be accomplished through wide spread labour intensive projects to develop farm to market road, local drainage, irrigation and flood control works and water management facilities.

(*b*) To organise farmers into viable units so that they can take advantage of modern agricultural technology. Under the Thana Irrigation programme, the farmers will be grouped into viable units for joint farming. The farmers are thus resposible through their groups to pay for the services of water at a subsidised rate, the subsidy being progressively reduced. It has also been noted that unemployment in East Pakistan, is concentrated in winter and dry season. With irrigation additional demand for agricultural labour is created. The estimated additional employment opportunities created by Rural Works and Thana Irrigation Programmes will be around 1.255 million man-years by 1974-75.

(*c*) To create in the rural areas farming units of an economically viable size with the aim of cooperative sharing of agricultural inputs and economic functions. Under the programme a two-tier system of cooperatives with village agricultural co-operative supplied and serviced by Thana level central co-operative association will be established. The programme will concentrate on establishing a system of agricultural credit and savings. Subsequently, the village and Thana associations will take up storage, mrketing and processing oprations. Thus, through this programme, beside channelling institutional credit for small farmers

and linking of credit with marketing, agricultural processing industries such as rice mills, cold storage etc. will be established and managed to the maximum extent possible by agricultural cooperatives. Rural electrification is also being taken up during the Fourth Plan as a part ofthe integrated rural development programme firstly for using electricity for running of agricultural machines like pumps and tube-wells and secondly, for the growth of processing idustries in the rural areas. Besides the allocation made for rural development programme in the public sector, arrangements are being made for channelling massive credit to decentralised Thana cooperative federations from the State Bank.

Flood Control & Water management.

22. Success of the food production programme however, requires increased measures for flood protection. Inspite of some shift in cropping pattern, the major rice crops will still be 'Aus' and 'Aman' which are vulnerable to flood. It has therefore, been decided to make a special allocation outside the framework of the Fourth Plan to finance the Flood Control programme in East Pakistan. The World Bank is conducting a major suvey of East Pakistan water resources. It is hoped that a viable flood protection programme financed through grants and soft loans, will emerge as a result of this survey.

Research.

23. Another crucial area for the break through in agriculture is the availability of improved seeds for 'Aus' and 'Aman' crops and for jute during the Fourth Plan. Research in this field is being given very high priority. Further, jute growers will be encouraged through subsidy and through market mechanism so that they can get more yield per acre and fair price for their produce.

Fisheries:

24. Another important programme in the agriculture sector is that of comprehensive development of Fisheries. Important features of the programme are development of fish harbour, deep sea fashing fleet, motorised inland fishing fleet and refriegerated storage and distribution facilities. It may also be mentioned here that an agreement has been signed with Asian Development Bank for sponsoring private sector tin storage, processing and export of fish.

Manufacturing and Industries:

25. The strategy for the Manufacturing and Industries sector for the Fourth Plan Programme in East Pakistan consists of the following elements:-

(a) Priority has been assigned to agriculture-oriented industries. The pace of execution of projects like Ghorasal fertilizer factory, Triple Superphosphate Plant, Ammonium Sulphate Plant as a part of the petro chemical complex, Pakistan Diesel Plant (for low lift pumps), and pesticides project will be accelerated.

(b) The manufacturing sector must grow rapidly enough to permit significant improvement in consumption standard of the people. A specific target in consumer goods industry, for instance, is increasing cotton yarn production from 132 million pounds to 272 million pounds. Similarly, balancing and modernisation of existing sugar mills; increasing the sugar content of cane by replacement of deteriorated varieties through sugar cane research institute at Ishwardi; and improvement of transport net work in mill zones will be undertaken.

(c) Importance has also been given to export oriented products like jute manufacturing in East Pakistan where emphasis has been placed on setting up more broad looms.

(d) The major projects of EPIDC will however be in the fields of heavy industries, engineering gooods industries and chemical complex. Beside the expansion of Steel Mill in Chittagong to a capacity of 250,000 tons the projects under execution will be the Machine Tool factory, Electrical Equipment Plant, the export oriented petro Chemical Complex etc. Beside, for import substitution FIDC wil' take up the project of Sylhet Pulp mill while E.P.I.D.C. will accelerate the execution of the projects of Clinker factory and Jaipurhat limestone.

(e) The criterion for investment in public sector programme for industries will be efficiency for public utility industries, and commercial viability and profitability for other industries.

(f) The role of EPIDC in accelerating the growth of private investment in East Pakistan will be fourthar expanded through disinvestment and the EPIDC/IDBP associates programme. Similar joint ventures between EPIDC/EPSIC and the private enterprenuers will be extended with greater responsibility of management vesting in the private enterprenuers.

(g) East Pakistan Small Industries Corporation will sponsor in a more vigrous manner the spread and diversification of small industries in East Pakistan. The existing arrangement between the large banks and the East Pakistan Small Industries Corporation will be improved and extended for the capital financing of small industries in East Pakistan. An agreement has also been signed with the World Bank for helping the EPSIC in developing small industries and industrial estates. The governing principles for the development of small industries will be:-

(i) to adapt small industries to technological changes and innovations;

(ii) to stimulate production of machines and equipments required for agriculture; ,

(iii) to encourage the processing of indigenous raw materials, particullarly agricultural, forestry and fisheries products;

(iv) to encourage growth of cottage industry in rural areas particularly in the sphere of hand looms; and

(v) to create additional employment opportunities.

Power:

26. The bottlenecks in industrial growth in East Pakistan during the Third Plan have been the high capital cost of power n East Pakistan and unreliable quality of service. Tied nature of financing, unsatisfactory terms of foreign aid, lack distribution facilities to strike a balance between generation and marketing facilities have led to increase in the capital cost of power projects. A careful review of the situation is being made to scale down the capital cost of aided projects and to bring about a better balance between power ganeration and distribution.

Transport & Communications.

27. Industrial and agricultural development in East Pakistan as spelt out above will require further improvement in the development of infrastructurelike port facilities, railways and road services. While a major project n the Transport and Communications sector for the Fourth Plan will be the developmentof Chalna Port, adequate provision has been made for the improvement of rail and

roads net work. It is further expected that the transport and communitcations sector will attract much higher private investment than realised during the Third Plan.

Social Sectors:

28. A major objective of the Fourth Plan is to combine economic growth with social justice. A full discussion on the various elements of this new strategy has been made in a separate chapter. It may only be mantioned here that if the emphasis on social programmes is to serve the purpose of social justice, the programmes will have to be designed to ensure that they benefit the low income groups. This important factor has been kept in view in designing the programmes on education, health, housing and other social services.

29. Further, a specific consumption pian on essential items of common demand has been prepared, and advance programme is being made to ensure that foodgrains, oil sugar and cloth are available to the common-men at reasonable prices.

B. Decentralisation :

30. Effective implementation of the programme out lined above will require administrative reform. A programme for administrative decentralisation for the implementation of development programme in East Pakistan is under study. Such decentralisation however, would necessitate reorganisation and strengthening of the provincial Planning Department. Arrangements have already been made to complement the local organisation with foreign consultants both in the field of general economic planning and also in the field of sedctoral planning. The reorganisation of the Planning Department in East Pakistan is already in hand so that the Planning body in the Provincial Government can be strengthened for both macro and micro planning as also for progress evaluation.

C. Preparation of project portfolio for aid negotiations :

31. Most of the project aid made available for the Fourth P'an period will be earmarked for projects located in East Pakistan. As the savings capacity is samll in East Pakistan the Plan provides for a large inflow of resources both from foreign countries and West Pakistan. The Provincial Government however, should ensure that adequate portfolio of aid worthy projects is available. To supplement the efforts of the Provincial Government in this regard advisors and consultants under Technical Assistance Programme will be provided to the provincial agencies.

D. Administrative improvements :

32. The large increase in the proposed investment programme over investment level in the past in East Pakistan will require an effective mobilisation of administrative and managerial resources, particularly in the public sector. Structural and organisational improvement in the Corporations like EPIDC, and EPADC are essential for ensuring adequate return on the investment. Beside the question of reorganisation of these corporationsthere is also the question of provision fo training facilities for development of mangerial resources. Both the questions of reorganisation and of inbuilt provision in the programmes for creation of managerial skill and know-how are under active review by the Government. Similarly in WAPDA the increased tempo in development activities in both water and power sectors calls for an institutional cahnge. The management of power for efficient and dependable service requires different concept than in the case of water development. These question of institutional change, modernisation and streamlining of methods and procedures, intensive training of personnel etc. are under study and hopefully the administrative machinery will be geared to the new development needs and programmes spelled out in the Fourth Plan.

E. **Private Sector investment :**

33. The Fourth Plan will seek major acceleration of private investment in East Pakistan . To secure this acceleration a policy package designed to improve the regional balances in private investment activity has been formulated. The main elements in the policy package are given below :—

(*i*) Adequate funds would be made available to the Equity Participation Fund so that it can support all economically viable investment propositions. Commercial banks, including National Bank of Pakistan will be encouraged to hold shares in Equity Participation Fund and participate in equity investment in less developed regions.

(*ii*) Central government and the State Bank of Pakistan shall formulate programmes, and assist in implementing these, for speedy development of capital market in East Pakistan including Dacca Stock Exchange.

(*iii*) Soft credits from traditional sources will be allocated to the Small Industries Corporation.

(*iv*) As far as possible the debt equity ratio for IDBP/PICIC loans should be 60 : 40 for projects in less developed areas and even 70 : 30 in case of special projects.

(*v*) Industries set up during the Fourth Five Year Plan and located in industrial estates established by Government in the 4-year tax holiday zones will be given further exemption for two more years in respect of 50% and 25% of the income respectively of the first and second year of the extended period.

(*vi*) Equity Participation Fund will issue, as and when the need arises, interest free debentures redeemable after 8 years. Companies investin in these debentures will be given tax credit of 50% of their invest ment in these debentures. While this scheme will secure for the Equity Participation Fund the real benefit of interest free fund, it will also give the investor an average annual tax free return of 12-1/2%. Companies investing in the fresh share capital of the Equity Participation Fund to be raised through public offers will also be eligible for the 50% tax credit.

(*vii*) Preferential terms will be given to less developed regions by development bank both for rupee and external financing.

(*viii*) Preferential tariffs for capital goods imported in East Pakistan, larger tax holiday and more liberal import of raw material into East Pakistan will continue.

34. In addition to the policy package presented above, the credit policies of financial institutions controlled by the government will be readjusted towards the objective of stimulating private investment in East Pakistan. Five of the six major institutions will have specific regional targets. In 1970-71 IDBP, PICIC, HBFC and ADBP plan to disburse 50 per cent of investment funds in East Pakistan while the ICP will earmark 64 per cent of its operations in East Pakistan.

35. The policy package combined with other measures already taken such as shifting of IDBP headquarteers to Daca and creation of an Equity Participation Fund and the operations of financial institutions are expected to have a favourable impact on regional redistribution of private investment, which may increase by at least 20 to 25 per cent over the level of private investment in East Pakistan, in the first year of the Fourth Plan.

CHAPTER 27

DEVELOPMENT PROGRAMME FOR WEST PAKISTAN

West Pakistan's development took place during the last three plan periods on the basis of an integrated administrative and economic unit. In the Fourth Plan, four distinct provinces would be purusing their separate development programmes in a number of fields. The break-up of one unit has highlighted the problem of differences in the basic resource endowment and the degree of agricultural and industrial development in various provinces. It is necessary to encourage each Province in to find the pattern of development most suited to its resource base, discover its own leading sectors and to work for attainment of a rapid pace of development. This cannot, however, eliminate the basic geographical unity of the region nessessitating development of various sectors with proper inter-provincial coordination. Railways, and water and power development would have to continue to be administered in a manner designed to take advantage of geographical factors.

2 As the Fourth Five Year Plan was being formulated, separate provinces had not yet emerged in West Pakistan. In determining the regional and sectoral allocations, guidance could only be abtained from the experience of West Pakistan as it existed during the last 15 years. West Pakistan allocation is to be further subdivided between development functions being coordinated through inter-provincial bodies like WAPDA, PIDC, RAILWAYS and A.D.C. and other developmental activities to be carried out by the new provincial governments. The allocation for the latter has to be distributed among the provinces on a mutually acceptable formula.

3 The ultimate shape of inter-provincial relationships and the degree of coordination acceptable to the Provinces in West Pakistan would emerge under the new Constitution. The Plan has not attempted to indicate any solutions. Ideally, the Plan for the region should emerge as a result of the coordination of provincial plans. Future plans would have to accommodate the demands emanating from the planning departments of the new provinces. In the meantime, however, the reverse process of sub-division of West Pakistan allocation among provinces is being followed. For the first year, 52.3 per cent of the public sector allocation for West Pakistan was earmarked for the programmes run by autonomous bodies includes railways. The balance was divided among the four provinces in the following ratio:

Punjab	52.9%
Sind	27.4%
N.W.F.P.	14.2%
Baluchistan	5.5%

4 The ultimate pattern of development allocations would emerge as a result of discussions in the National Finance Committee, actual development experience and the Constitutional pattern adopted. This chapter, therefore, describes the past performance and future programmes of West Pakistan as a whole. Profiles of provinces and some details of their identifiable programmes are added, without any claim for comprehensive treatment, merel to start the process of thinking concerning the future development of new provinces.

Development in the West Pakistan Region

5 West Pakistan has emerged in the last decade as a rapidly developing region. After experiencing a growth rate of 3.1 per cent per annum in the fifties, West Pakistan recorded a sharp up-turn in growth of G.N.P. in the early sixties.

During the Second Plan period, West Pakistan's annual average growth rate was 6.4 per cent, agains the national average of 5.4 per cent. It had attained a high investment ratio and was also the recipient of bulk of the aid received in the country.

6 In the Third Plan, major problem faced by the region was of adjustment to declining investment ratio and shrinking aid flow. It had to abserb the impact of national stagnation in investment levels, while making room for an increase in the share of East Pakistan in the total donvelpopment. Total investment in the region hardly registered any increase in current prices. This implied a substantial reduction in constant prices. The ratio of investment to regional product declined steeply from 22 per cent in 1964-65 to 16 per cent in 1969-70.

7 Growth rate in the region was protected despite this sharp fall in investment ratio. This is partly due to the normal time-lags before the ralationship between investment and growth asserts itself To a o large extent, however, the impact of lower investment was offset by a major technological change in agriculture in West Pakistan. The spread of new seed-based technology in rice and wheat produced significant results, which were more directly related to current inputs than to current investment.

8 The value added in agriculture recorded a growth rate of 5.4 per cent per annum in the Third Plan in West Pakistan compared to 3.8 per cent in the Second Plan. The production of rice and wheat almost doubled over the period, wheat rising from 3.8 million tons in 1964-65 to 7.1 million tons in 1969-70, rice production increasing from 1.3 million tons to 2.3 million tons over the same period.

9 The industrial growth rate on the other hand registered a sharp decline in the region. The growth rate of large scale manufacturing sector dropped from 17.5 percent in the Second Plan to less than 7 per cent in the Third Plan. Apart from the effect of lower investment, the difficulties in obtaining adequate supplies of imported raw materials were responsible for the poor performance in the industrial sector.

10 As has been explained in the overall review of economic development in the country, the decline in investment levels and pressure on public sector resources affected allocations for social sectors. Since the cut in investment was larger in West Pakistan relatively to the size of its ongoing programme, the squeeze was dispreoportionately higher in the region's programmes for social sectors.

Fourth Plan Strategy

11 The Fourth Plan strategy for West Pakistan is essentially designed to achieve the minimum objective of arresting any further decline in real investment and for protecting the investment ratio in the region. The annual acceleration in public sector development spending and private investment combined would be only 4.5 per cent which is less than the growth rate in GNP projected for the period. With the present allocations i.e. a slight fall in the investment ratio, West Pakistan would be required to manage a wider geographical dispersal of investment and to seek a better inter-provincial distribution. The task for West Pakistan would remain difficult during the Fourth Plan period and would demand skill in economic management.

12 Growth rate in the region would largely depend upon continued improvement in agricultural production. The spread of new seed-based technology is expected to continue though not at the initial brisk pace of the Third Plan. More attention will also have to be paid to further innovations in agricultural sector particularly

in commercial sector *e.g.* cotton, edible oils and animal husbandry fields. Substantial increases are projected in agricultural production in the Fourth Plan. However, with the delayed impact of reduced investment in the Third Plan and the proposed stabilization in the level of investment, the growth rate in G.N.P. is projected at 5.5 per cent for the Fourth Plan period, showing a fall from the average of more than 6 per cent for the past decade.

Provincial Profiles and Programmes in West Pakistan

The actual implementation of the Fourth Plan would be on the basis of four distinct provinces which have emerged in the region with their separate development administration. Information is not yet complete about the economic and social base of each province as all the statistics were compiled during the past on the basis of one-unit. Similarly, programmes have not yet been formulateed for the provinces separately. The following sections give a broad general profile of the provinces and describe some of the programmes which are important in aeach province.

GRP, Population and Per Canpita Incomes

The distribution of population and regional output, presented in table I below, indicates the relative development of the four provinces in West Pakistan. The division of West Pakistan's GRP into its four provinces poses conceptual difficulties mainly because it is based on gepgraphical product originating in an area. Information at the provincial level is far from complete and the breakdown presented below is a hurried and crude estimation. Movement of labour and capital and sharing of common services in a geographically continguous area, circumscribe the validity of *per capita* income estimates, The present estimates are only indicative of the broad order of magnitude and relative position of different provinces. More firm estimates would result from further studies proposed to be carried out. Information given in table I should be interpreted in this light.

TABLE 1

..GRP and Per Capita GRP by Provinces in 1968-69

(Current factor cost)

	GRP (Rs. Million)	Population (Million)	GRP Per Capita (Rs.)
Sind	9,805	11.5	854
Punjab	21,385	34.8	614
Baluchistan	769	1.7	466
N.W.F.P.	3,714	10.3	360
Total W. Pakistan ..	35,644	58.3	626

15 It will be seen from the table that Sind has the highest *per capita* income (854), followed by Punjab (614), Baluchistan (455) and finally N.W.F.P. (360). The emergence of Karachi as the industrial and commercial capital of Pakistan since the early years of our Independence is the principal reason for the relative prosperity of Sind. The structural composition of provincial output, shown in table2, is evidence of this. With a fifth of West Pakistan's population residing in it, nearly half of West Pakistan's industrial output is produced in Sind, 40% in Karachi alone. As a result, 26% of Sind's output consists of manufactures compared with 15% for West Pakistan, Sind is also self-sufficient in foodgrains and surplus in rice, contributing over 40 per cent to West Pakistan rice output. Sind has a large proportion of West Pakistan's irrigated area relative to its population. Attention, however, still needs to be focussed on its desert areas.

16 In Punjab, a prospering agricultural sector combined with significant industrial development have contributed to a per capita income of Rs. 614 which is roughly equal to the average for West Pakistan. The major producer of agricultural surpluses, Punjab produces most of the Wheat, rice, other foodgrains, sugarcane and cotton and has also developed a wide range of industries for large scale manufacturing in the Lahore, Lyallpur and Gujranwala areas and small-scale in Sialkot, Gujrat and Gujranwala. Punjab accounts for over 40 per cent of industrial outputs of west Pakistan region. The main problem in Punjab is the poverty of its barani (rain-fed) areas, which pull down the provincial avaerage.

17 The N.W.F.P. and Baluchistan with low density and arid zones without any of the natural advantages obtaining in Sind and Punjab, have fallen considerably behind in the pace of development. Efforts of the government to regulate economic progress with a view to intra-regional parity must concentrate on identifying the unexploited potential in these provinces and gearing the development effort towards removing the hinderances and providing positive contribution to growth impulses in these two provinces.

TABLE 2

Structure of GRP (1968-69)

(Rs. Crores)

	Agri-culture	Manu-facturing	Others	Total
Punjab	990.1	237.1	908.4	2,135.6
Sind	315.7	258.8	405.8	980.3
N.W.F.P.	143.2	48.4	179.8	371.4
Baluchistan	30.7	4.9	41.3	76.9

PUNJAB

18 Punjab comprises the Lahore, Sargodha, Rawalpindi and Bahawalpur divisions. Its climate and topography shows a lot of variation between the arid desert regions of lower Bahawalpur and the wooded northern regions of the Rawalpindi Division. The rainfall in Punjab depends mainly on the monsoon and normally lasts

from June to September. Rainfall is fairly sufficient in a normal year in the sub-mountainous tracts but the supply of rain water is eratic from year to year. In the Southern and South-Western districts with scanty raintall, agriculture largely depends on artificial irrigation. Punjab has probably the most developed irrigation system in the world.

19 About 60% of the Gross Provincial Product of West Pakistan is contributed by Punjab. The income per capita in 1968-69 was Rs. 614. The composition of the GRP of Punjab (Rs. 21,356) million is heavily skewed in favour of agriculture, which is the largest sector in the Province's economy and accounts for roughly 46% of the G.P.P. Manufacturing is the next largest sector and contributes about 12% to the Provincial product. The salient economic characteristics of the various sectors are discussed in the following paragraphs :—

II-REVIEW OF DEVELOPMENT

Agriculture

20 The total reported area in the province during 1967-68 was 41 8 million acres, out of which the cropped acreage was 24.7 million acres, cropping intensity being 106. The province is the major source of foodgrains producing, 80% (5.2 million tons) of West Pakistan's wheat, 54% of clear rice (1.1 million tons) 74% of cotton (2.2 million bales) and 74% of the sugracance (15.9 million tons). It also produces about 3,00,000 tons of maize 42,000 tons of tobacco and 106,000 tons of rape-seed and mustard. The major schemes impiemented during the Third Plan relate to plant-protection, mechanisation, soil conservation and agricultural research.

Manufacturing

21 In the manufacturing sector the main industries are cotton textiles, engineering industries, machine tools and machinery, cement, sugar, chemicals paper and board and other processing industries based on locally available raw materials. Apart from rapid development in the traditional areas of industrial concentration like Lahore, Gujranwala and Lyallpur a Heavy Machanical Complex has been set up at Taxila, where two more projects, the Heavy Foundary and Forge and Heavy Electrical Complex are contemplated.

Physical Infrastructure

22 The total mileage of high type roads is 5,993 miles and low type roads are about 500 miles. Punjab inherited probably the best net-work of railways among all the provinces of West Pakistan. Lahore, besides being the largest junction has also the largest railway workshop in the whole of the country. The total mileage of railways in the province is 1,900 miles which is all standard broad-guage.

23 The total number of vehicles plying in Punjab is 71,087 which is roughly 49% of the West Pakistan total, out of which private motor cars are 25, 187 and about 10,000 trucks. Detailed designing and engineering studies of Lahore-Multan, Lahore-Lyallpur and Sheikhupura Sargodha highways have been completed. Four high level bridges have been completed on Jhelum near Jhelum, on Ravi near Lahore and on Sutlej near Chichawatni . The highway between Gujranwala and Lahore and Multan and Lahore have been improved.

24 In the Water sector work continues on the Thal, Taunsa and Mianwali riverine area tubewell projects. Major on-going drainage schemes like the SCARPS will be carried into the Fourth Plan.

25 The total installed generating capacity in Punjab was 945 thousand Kw in 1959-60. With the completion of Mangla in 1966-67, the capacity was almost double. As Mangla is expected to be increased to 1 million Kw, the total generation in the province will be about 1,500 Kw by 1974-75.

Social Infrastructure

26 The total number of primary schools in 1964-65 was 18,000 and the middle and high schools were 2,700. There are 116 colleges and 3 universities. The average literacy in the Punjab comes to about 22%.

27 The total number of hospitals in Punjab in 1969 was 194 with 11,636 beds. There were 895 dispensaries with 1,777 beds.

III. OUTLOOK FOR THE FOURTH PLAN

28 Strategy for the Fourth Plan will essentially have to be guided by the experience of the of the Third Plan. Punjab has been leading in the adoption of new agricultural technology. Efforts would be needed to maintain the tempo of agricultural growth and spread the change to still smallers farmers. Considerable attention will have to be given to the problems of barani areas and regions which did not benefit from agricultural revolution. Simultaneously, measures would be needed to utilize the surplus capacity in engineering goods industry which has developed in the province.

(i) Agriculture

29 The main task during the Fourth Plan will be to consolidate the gains from the recent green revolution. The foremost requirement would be to prevent a relapse in the performance of new varieties due to such factors as new diseases, pest attacks and physiological degeneration. The availability of technological change will have to be increased to involve small farmers and less developed districts. Adjustments in agricultural price relationships in line with the world market, have to be undertaken because of the prospects of higher return to growers of cotton and rice. Modern inputs and technology should be extended to crops other than wheat and rice also.

30 So far emphasis has been on foodgrains production alone, proteins and other nutrients being given very little attention. Programmes for increasing production of oil seeds, grams, pulses and animal proteins should be initiated.

31 Greater emphasis on phosphatic manures will be necessary to achieve a more balanced ratio of nutrient inputs between phosphatic and nitrogenous fertilizers. Plant protection services have been used disappointingly slowly and in most cases allocations made have been poorly timed. It has already been decided to transfer plant protection operations to the private sector but the interest of the farmer particularly relating to the price must be watched.

32 The Agricultural Research Institute will have to provide the lead particularly in such things as providing nucleus seed which may be multiplied at the ADC farms or by private companies. Private companies can also render useful services in mechnaization of agriculture. The possiblities of manufacture of threshers, tractors and combine harvesters should also be considered. Panjab is the only surplus province in food and has surplus storage capacity also. The deficit provinces should be asked to create storage capacity so that they can lift grain from Panjab at the harvest time and store it where it is meant for consumption. This will also keep the prices in check.

33 The schemes of soil conservation and watershed management which are already under execution, will need substantial modifications in order to change the technique and approach in as much as, these projects demand an area approach. The formulation of revised projects may, therefore, be necessary, particularly, in view of the report from U.S. Water Shed Management Team, currently under preparation.

34 Fund availability constraints are likely to continue during the Fourth Plan. Therefore, strategy for the water sector will have to be aligned to the following factor

(*a*) Most of the additional water to be available during the Fourth Plan will be supplied from private tubewells. Electrification of those public tubewells which are already constructed but not yet energized should get top priority ;

(*b*) The irrigation system which has been subject to increasing strains is in the need of overhauling, remodelling and strengthening, in order to provide assured water supplies to the land. The allied problems of water logging and salinity specially in areas with saline ground water will have to be given special attention.

35 Many large schemes like Thal project, Taunsa Barrage project Mianwali Riverian area tube-wells schemes are expected to be completed shortly. Similarly, about 7 big drainage schemes like Pandoki drain, Hudiara, Raiwind, Rechna Outfall, Sukhrawa Outfall, Satiana-Sumandary drain and Rasul Tubewell projects are also under completion.

36 Adequate funds are expected to be provided for the remaining SCARP Schemes. SCARP Bahawalpur will need particular attention in view of the serious problem in that division. In the first phase the operations in Bahawalpur may be confined to sweet water area. Tubewells for the saline water areas could be taken up in the Second phase.

37 The main objective of the Power programme will be to provide efficient and dependable supply of electric power, and removal of any imbalance between generation and transmission and distribution. Special emphasis will have to be placed on the rehabilitation and improvement of the older parts of the distribution system.

38 In order to utilize Mangla power, 132 Kv line has been completed from Mangla to Kalashah Kaku. The second line between Kalashah Kaku to Kot lakhpat is expected to be taken up shortly. The 70 miles of double circuit, 220 KV line from Kala shah Kaku to Lyallpur is under construction. New transmission lines of 220 KV circuit, double circuit towers from Mangla to Kamoke, from Mangla to Wah and another line initially to be operated on 132 KV from Kamoke to Kot-lakhpat is expected to be undertaken during the Fourth Plan.

(iii) **Industries**

39 The strategy for the industrial sector has to be in the context of limitations and constraints experieieneed during the Third Plan.

40 The highest priority should go to balancing and modernization of the existing units so as to raise their productivity and to enable them to compete with imported goods and effectively enter the export market. Utilization capacity needs to be improved with the help of larger availability of industrial raw materials.

41 In the public sector, the main task before WPIDC is to ensure completion of their major on-going projects like the Heavy Mechanical Complex at Texila, Heavy Electircal Complex and the Heavy Foundry and Forge.

42 Subject to availability of finances, some new capacity can be created in industries like, leather, tanneries, foot-wear and leather industries, vegetable ghee, agro-industrial combine, rice mills, slaughter houses, dairying, cigarettes and fertilizers, soda ash, soda caustic and sulphuric acid.

(iv) **Transport and Communications**

43 In view of the recent developments, a more balanced and objective approach to transport policy and investment will be specially called for during the Fourth Plan. Due emphasis should also be placed on completing major on going programmes. These include ; Sheikhupura-Sargodha highway costing about Rs. 14 croers which is in initial stage of implementation, and a high level bridge over river Chenab near Talebwala at a cost of Rs. 3.13 crores. The improvement of highway from Lahore to Rawalpindi should get top priority and should be completed during the Plan period.

44 Among the new projects envisaged, some of the bigger schemes proposed to be taken up are widening and strengthening of Saraikaikot-Nagibullah road (estimated cost of Rs. 70.24 lakhs), reconditioning and widening of G.T. Road miles 105 to 131 from Jhelum to Gujarkhan in Rawalpindi Division ; reconditioning of Gujrat-Sargodha road miles 70 to 83 (estimate dcost of Rs. 33.01 lakh) and miles 85 to 107 (estimted cost of Rs. 32.01 lakh) in Sargodha Division: construction of a bridge over Bain Nullah in Shakargarh (estimated cost of Rs 31.09 lakhs), widening and reconditioning of Chichawatni Burewala road (estimated cost of Rs. 25.12 lakhs) in Lahore Division ; and strengthening of West Pakistan highway in Rahimyar Khan district. All these schemes will be taken up in the first year of the Fourth Plan.

(v) **Physical Planning and Housing**

45 The main emphasis in housing sector has to be on low income housing leaving investment in the middle and upper class houses to the private sector. The priority will continue to be given to water supply schemes. Among the urban water supply schemes, the projects at Multan, Gujranwala and Rawalpindi (phase 3 will have to be completed,. A number of new urban water supply schemes and drainage schemes in various smaller towns will be taken up during the Fourth Plan. The strategy with repect to these schemes should be to complete them within the Plan period. The towns covered under these schemes are Jhelum, Gujrat, Kasur, Pattoki, Narowal, Khushab, Wazirabad, Chiniot, Ahmadpur East, Rahimyar Khan, Rawalpindi and Sialkot.

46 Among the Local bodies, two major schemes of the Lahore Improvement Trust *i.e.*, Kacha Multan Road, Greater Lahore Water Supply, Sewerage and Drainage scheme are already under implementation and would need substantial investment during the Plan period if they are to be completed.

(vi) **Education**

47 In the Education Sector, the main strategy would be to initiate a programme within the framework of the new Education Policy besides providing funds to major ongoing projects, and correcting the imbalance in the available facilities. The province has 3 Universities, namely Agricultural University, Lyallpur, Punjab University, Lahore and Engineering Univeristy, Lahore. The new campus of the Agricultural University will be completed with an expenditure of Rs. 1.7 crores in the first year of the Plan. Punjab University's existing phase will also be completed while Engineering University will need a substantial amount of funds during the Fourth Plan to expand its facilities. New schems of establishing Polytechnics with three technologies at Gujranwala, Campbellpur and Rahimyar Khan are expected to be completed by 1974-75 at a cost of Rs. 1.46 lakhs and establishment of vocational schools for girls at Lahore, Sialkot, Multan Rawalpindi, Lyallpur, Bahawalpur at a cost of Rs. 60 lakhas.

(vii) **Health**

48 The two major programmes of Family Planning and Malaria Eradication are fully financed. The main strategy during the Fourth Plan will be to consolidate various facilities brought on the ground in the previous Plans. Most of the Institutions lack equipment, medicines and other infrastructure which need to be given due priority.

49 Report of the West Pakistan Health Study Group has highlighted major problems in this sector. The main issue as pointed out by the Group is of medical facilities to the urban areas, in such a way that the whole population gets full medical coverage. In this respect, Social Insurance Scheme is intended to be tied up and it is envisaged that its scope and coverage would be gradually widened.

50 Rural Health Programme could not make much progress during the Third Plan period, among other reasons, for want of firm thinking on the provision of rural health centres. Now that the programme is almost finalized it should be taken up with full emphasis.

51 The rural health programme has assumed importance because of the fact that on the termination of Malaria Eradication programme, it is envisaged that maintenance duties will be taken over by the Health centres. Similarly, possibilities of involving the health centres in the Family Planning Programme are worth consideration.

52 During the Third Plan a number of vertical programmes were initiated which besides Malaria Eradication and Family Planning included T.B. control, BCG Vaccination, Small Box eradication etc., It has been the intention to merge these programmes into a single integrated rural health set up. The possibilities of its implementation have to be explored and would require decision.

(viii) **Social Welfare and Manpower**

53 The main activity in the Social Welfare Sector is through the Social Welfare Council which is given grants-in-aid by the Government to implement the programmes. In the public sector urban and community development projects are important for motivating the local communitieade. so far[significnant impact on the rural community development has not been made the main emphasis, therefore, has to be on community development programmes both urban and rural.

54 Manpower and employment sector comprise only five technical training centres all of which will be completed during the Fourth Plan period. Efforts should be made to initiate new programmes. In fact a si zeable programme is required to collect information on the employment situation and also to forecast future manpower requirements.

SIND

55 Sind has an area of around 65 thousand square mi les and a population of 8.38 million (1961), a singnificant proportion of which lives in urban areas, especially at Karachi. As a result of the inclusion of Karachi, it is the most industrialized province in Pakistan. The rest of Sind however, is predominantly rural and the primary occupation of most people is agriculture. Receiving scanty rainfall, the province depends almost exclusively on the river Indus which feeds irrigation canals controlled by three huge barrages, *viz* Guddu, Ghulam Mohammed and Sukkur. The cropped area is 23.4 million acres and the cropping intensity of 116 is the highest in West Pakistan.

56. The regional product of Sind is estimated at Rs. 980.3 million and its *per capita* income at Rs. 854 annum. Intra-regional incomes within the province are, however, exteremely disparate, the contrast between Karachi and Tharparkar districts dwarfs that between provinces or within any other province.

57. Sind produces substantial quantities of food crops, *e. g.* it produces 43.6% of the clean rice, 45.2% of Jowar, 32.1% of Bajra and 13.4% of wheat of the total production of West Pakistan. Sind is self-sufficient in food.

58. The total industrial production in Sind was Rs. 4,115 million rupees or 48.6% of the total for the whole of West Pakistan in 1967-68. Karachi industries alone contributed Rs. 3,303 million. It has 1,609 industrial establishments being roughly 49% of the total industrial establishments in the whole of West Pakistan. Hyderabad is also fast developing into an industrial town and had 146 establishments. Major industries in the province are textiles, chemicals, cement, machinery, electrical and other consumer goods industries.

II. REVIEW OF DEVELOPMENT

59. Sind, including Karachi, made a significant progress during the last 10 years. Perhaps the largest number of major projects in water power and transport sectors were undertaken in the province of Sind. Excluding schemes, extending beyond a single province, the total allocation to Sind region (Khairpur and Hyderabad Division) during the Second Plan was Rs. 159.7 crores. Karachi was transferred from Centre to West Pakistan in 1962-63 therefore allocations to Karachi before that are not included in the Second Plan allocations. Allowing for a 10% shortfall, the total expenditure would not be less than Rs. 144 crores. In the 3rd Plan the allocations amounted to Rs. 200.5 crores and it is estimated that not less than Rs. 150 crores would be spent in the 3rd Plan. Thus the share of Sind in the West Pakistan allocation was 23.7% in the 2nd Plan and 21% in the 3rd Plan.

(i) Water

60. By the end of the Third Plan, about Rs. 55.0 crores were spent on Guddu Barrage project in Sukkur and Jacobabad, and about Rs. 42.4 crores on G.M. Barrage in Hyderabad, Thatta and Dadu districts. The expenditure on G.M. Drainage works was about Rs. 8.6 crores and on flood protection in Guddu Barrage Rs. 1.5 crores. Other major projects taken up and under implementation were: Karachi Irrigation Scheme, SCARP Khairpur on which Rs. 15.9 crores were spent by the end of the Third Plan, SCARP Rohri north on which Rs. 3.5 crores were spent and development of ground water in Guddu Barrage.

(ii) Power.

61. Thermal power stations at Karachi, Hyderabad and Guddu and nuclear station at Karachi have been undertaken and are either complete or near completion. Total generation of electricity in 1968-69 was 133 MW. the total number of electricity units was 279.3 million and total number of electricity consumers were 133 thousand.

(iii) Agriculture.

62. A number of schemes in agriculture sector were implemented by ADC. These included; Soil Testing Laboratory in Guddu, Agricultural Development Estate in Karachi. A number of live-stock development and research farms and development of schemes in forestry sub-sector were taken up, the major one being, afforestation in Guddu Barrage, at a cost of Rs. 2.9 crores.

(iv) **Transport**

63. The Thata-Sajjawal bridge over Indus and the national super-highway from Karachi to Hyderabad was completed at a cost of Rs. 9.7 crores. Besides, a net work of roads in G.M. and Guddu Barrage areas were taken up to open up these barrages for colonisation. The total mileage of roads in Sind in 1967-68 was 2,326 miles, out of which high type roads were 1,859 and the low type 467 miles. The low type roads do not include thousands of miles of Kacha tracts which susually link villages in Sind and are very vital to the rural economy. In 1969-70, the total mileage of railways was 1,547 miles out of which broad-guage line accounted for 1,270 miles and meter-guage 277 miles.

(v) **Physical Planning & Housing**

64. Part I of the second phase of Greater Karachi Water supply Scheme was completed at a cost of over Rs. 3.0 crores and part II was taken up. Karachi Municipal Corporation Water Supply, Swerage and Renovation Scheme was almost completed with an expenditure of Rs. 2 crores. An amount of more than Rs. 21 crores was spent on Greater Karachi Resettlement scheme besides settlement schemes at Shah Latifabad, Hyderabad and Mirpur Khas.

(vi) **Industries**

65. The extension of Associated Cement at Rohri was undertaken and by the end of the third plan Rs. 2.5 crores were spent. The scheme will continue during the Fourth Plan. Karachi, of course, is highly industrialized as a consequence of huge private investment.

(vii) **Education**

66. NED Engineering College was taken up for construction on the new campus of Karachi University on which over Rs. 50 lakhs were spent. An amount of Rs. 1.2 crores was spent on the development of Sind University and an equal amount on the development of Karachi University besides Rs. 1.4 crores on scholarships. The total number of educational institutions in the Sind area was 10,716 out of which 9,739 were primary schools, 441 middle and 449 high schoolsin 1964-65. There were 2 universities and 78 colleges. Literacy rate of Sind comes to about 15 per cent.

III. OUT LOOK FOR THE FOURTH PLAN

67. It will be necessary to review carefully the large ongoing programmes and refix the priorities not only to complete important ongoing schemes but also to make room for new projects which the provincial Government may like to take up. Water is of upmost importance for Sind's economy. In fact almost entire agriculture depends on availability of rirrigated Water since rain-fall is very scanty. The ongoing schemes for water resource development will, therefore, have the highest priority.

68. Karachi, with its industry, business and Commerce has been developing serious urban problems like, housing, water supply and sewrage, during the last decade. To solve the urban problems of Karachi will be an important objective.

69. In the Agriculture Sector, the main strategy will be, to consolidate the gains of echnological change and to arrange for key inputs like fertilizer, seed and plant protection services etc. Rice Research Programme at Dokri and Agricultural Research at Tandojam will have to be developed.

70. In the Water Sector, efforts will be made to complete the large programmes of irrigation. drainage and ground water development in Guddu and G.M. Barrage areas. By the end of June, 1969, Rs. 54.9 crores were spent on irrigation development at Guddu Barrage and 27.16 lakh acres were developed and the project is allocated Rs. 72 lakhs in the first year of the Fourth Plan. In G.M. Barrage irrigation project, 24.13 lakh acres of land had been benefitted at an expenditure of Rs. 42.4 crores by the end of 1969. The Fourth Plan allocate about Rs. 5.0 crores. On the surface drainage scheme, phase I, of G.M. Barrage, Rs. 8.6 crores were spent by the end of June, 1969 and 990 miles of surface drainage were excavated as against the total length of 1404 miles of drains. The estimated expenditure in the Fourth Plan is Rs. 5.0 crores. Besides these, flood protection works in both the barrages will be taken up in the Fourth Plan. Another major project to be undertaken in the Fourth Plan is the construction of link canal connecting K.B. Feeder lower with right bank of Indus. Its expenditure in the Fourth Plan is estimated at Rs. 1.7 crores. The progress of these projects in the Fourth Plan will be of vital importance to the economy of Sind. Project SCARP Khairpur will be completed during the Fourth Plan. SCARP Rohri north the total cost of which is estimated Rs. 18.01 crores (Rs. 3.5 crores were spent by the end of the Third Plan) is also being allocated Rs. 4.6 crores in the first year and efforts should be made to complete this.

71. Two major projects in Power Sector will be the completion of Guddu Thermal Power Station and Southern Zone Transmission Line. So far Rs. 20.97 crores have been spent on Guddu Thermal. It's likely provision in the Fourth plan is estimated at Rs. 43.96 crores and for the year 1970-71 Rs. 10.55 crores have been allocated. The Southern Zone Transmission (Super grid 500 KV link) evisages to integrate different independent grid systems of West Pakistan by E.H.V. interlink in a phased programe running from 1971 to 1980. The first phase of E.H.V. Interlink from Guddu to Lyallpur and Guddu to Karachi will be linked up with 500 KV single circuit transmission line. The cost of the main scheme is estimated at Rs. 60.42 crores while the cost of the survey has been estimated at Rs. 3.4 crores. So far Rs. 87.15 lakhs have been spent and it is proposed to take up the work on the scheme with an allocation of Rs. 1.06 crores in the first year of the Plan.

72. A large programme of road development in Guddu and G.M. Barrage areas is under implementation and will have high priority in the Fourth Plan to develop the areas covered by the two barrages. Indus Highway is being improved at its various portions at a total cost of Rs. 2.31 crores and Rs. 1.93 crores have already been spent. These roads will be completed in the Fourth Plan alongwith remaining work of Karachi to Hyderabad supperhighway.

73. Greater Karachi Water Supply is being improved through KDA, on which more than Rs. 3 crores have been spent so far. The Fourth Plan expenditure on the two phases of the scheme is estimated at Rs. 3.11 crores and Rs. 1.87 crores have been earmakrked for the first year of the Plan. The master plan for Karachi metropolitan region is another important scheme which will be taken up. Greater Karachi Resettlement Scheme on which more than Rs. 21 crores have been spent will be completed alongwith Satellite Town Schemes at Hyderabad and Mirpur Khas besides a number of urban and rural water supply schemes.

74. In the education and health sector, priorities will be uniform over all provinces. Primary and technical education rural health centres and hospital facilities will be emphasized.

NORTH WEST FRONTIER PROVINCE

75. The North West Frontier Province comprisesPeshawar, D.I. Khan and Malakand division. The Province has an area of about 24,800 squares miles with population of 5.8 million and density of about 225 to 230 % per sq. mile. 90 per cent of the population lives in the rural areas.

76. Geographically, the Province can be divided into 3 tracts, *i.e.*, high wooded mountains of Hazara district; the valley lying between Indus and Trans border hills comprising districts of Peshawar, Mardan, Kohat, Bannu and D. I. Khan; and the part of rugged mountains in NWFP and Swat separating the Province from Afghanistan. The plains are part of the Indus Basin. Besides the river Indus there are about 8 small rivers which are seasonal and depend mainly on rain fall or snow in the Catchment area. The rain fall during winter varies from district to district ranging from 5 to 30 inches per annum.

77. The Gross regional product of NWFP is estimated at Rs 3,714 million yeilding *per capita* income of Rs. 360 per annum.In terms of *per capita* income therefore, this region is the poorest in Pakistan. Agriculture accounts for 40 per cent and manufacturing 13 per cent of the Provincial product. The salient economic characteristics of the various sectors are discussed in the following paragraphs :—

Agriculture

78. The total agricultural area in NWFP is 10.7 million acres of which 3.1 million acres are cultivated with an average crop intensity of 114. The province is an important source of two cash crops, tobacco (173.4 million pounds in 1968-69), and sugar cane (3.0 million tons in 1968-69). It also produced in 1968-69, 381,000 tons of wheat, 299,200 tons of maize and 45,000 tons of rice.

Manufacturing

79. Industrial development in NWFP is linked with the two cash crops and indigenous skills. Sugar industry is the main stay of the industrial sector in this province. There are sugar mills at Charsada, Mardan and Bannu with annual capacities between 18,000 to 50,000 tons of refined sugar. There is another sugar mill at Sarai Nurang which is being managed by WPIDC. In addition to this two sugar mills at Takht Bai and Peshawar are likely to go into production in the current year. Besides this, the other major projects which are under implementation are the Dir Forest Industry Complex and Swat China Clay. In addition to this, two industrial estates, one each for large and small industries, have been completed at Peshawar and work of colonization is in progress. Other smaller schemes which have been completed include : Handicrafts Development Centre at Peshawar and Jareed, Development-*cum*-Training Centre for Carpet Industry at Peshawar, Ceremic Training Centre Pabbi, Metal and Wood Workshop at Pishungri and Wool Weaving-*cum*-Development Centre at Jareed (District Hazara) and Woollen Spinery at Mansehra.

II. REVIEW OF DEVELOPMENT

Physical Infrastructure

80. Agriculture and Water development was given fairly high priority in the development so far undertaken in N.W.F.P. In both the Divisions, namely Peshawar and D. I. Khan, scores of small schemes on every sub-sector of Agriculture were completed. Agricultural Research facilities at Tarnab Farm were improved and new research sections opened. Additional food storage accommodation was added at a cost of Rs. 56 lakhs. Water Shed Management Scheme

was taken up in Kaghan valley and hilly land of gallies in Hazara District. The object of the scheme was to rehabilitate and stabilize an area of 30 sq. miles in Kaghan valley. It envisaged construction of 70 miles of feeder truck roads in Kaghan Forest Division and 28 miles truck roads in Siran valley. The Agricultural College attached with Peshawar University was completed and the work on Co-operative Education Institute at Peshawar nearly completed.

81. The total development expenditure on Irrigation Schemes amounted to Rs. 96 million during the 3rd Plan. Out of this A.D.C. spent Rs. 5.3 million on Small Dams construction. An important scheme undertaken in Peshawar Division was the Warsak High Level Canals which have been completed at a cost of about Rs. 80 million. The canals cover a vast area in Peshawar Division and have been instrumental in revolutionising agricultural economy of the region. Another major scheme which has been completed is Sarai Saleh, non-perenial canal from Daur river. Khuram Multipurpose Irrigation Project, at a cost of Rs. 90 million has also been completed. The Gomal Zam project costing Rs. 390 million was taken up and about Rs. 40 million have been spent on designing and colonisation work etc., but due to certain engineering and technical difficulties and uncertain economics of the scheme, it has not yet been taken up for execution. Khanpur Dam Project costing Rs. 157 million is under implementation and more than Rs. 30 million have been spent on it. Tanda Dam Project designed to conserve the flood waters of Kohat river, for use through out the year and to improve prospects of permanent irrigation, has been completed at a cost of more than Rs. 60 million.

82. Besides these major schemes, numerous lift irrigation and flood protection and regulation schemes have been completed in the two divisions.

In the Power Sector, a total expenditure of Rs. 30 million has been incurred on schemes in the Peshawar Division. Besides this, rural electrification has been improved to give an impetus to speedy industrialisation in addition to fulfiling power needs of the general consumers in the far-flung areas of the Division.

83. In the Roads sub-sector, an expenditure of Rs. 56.2 million was incurred during the 3rd Plan. The Hazara Trunk Road from Hasan Abdal to Abbotabad has been widened and a high level bridge over river Kabul at Jahangiria has been completed at a cost of Rs. 3.4 million. The total mileage of roads in the province is reported to be 4,402, out of which 1,929 miles are of high and 2,473 miles of low grade roads. Of the high grade roads, 1,312 are in Peshawar Division and 617 in D. I. Khan Division. The length of railway lines is 1,050 miles out of which 854 miles is broad gauge and tne rest is narrow gauge.

Social Infrastructure

84. In the Physical Planning and Housing Sector, it is estimated that Rs 32 million have been spent during the 3rd Plan period. Numerous Water Supply schemes both in the urban and rural areas have been completed. These cover the urban areas of D. I. Khan and Mansehra and the rural areas of Saria, Narang, Omakhel and Kulachi. Water supply schemes in various other areas including Takhtbhai, Topi, Karishanzai, Ghoriwale and Pezu are under implementation. Housing facilities for the Government servants have been completed at Abbotabad, Mardan, Bannu and Peshawar. A new scheme has been taken in hand at Domail.

85. A large part of the Education Schemes were drawn up and implemented on West Pakistan basis. Among the specific schemes for N.W.F.P. the Development of Peshawar University was completed. A Cadet College at Kohat was also completed. The work is in hand on a Polytechnic at Peshawar.

86. In the Health Sector, the efforts were directed towards provision of medical facilities at the district and tehsil level besides covering the rural areas through rural health centres. District hospital at Mardan, Abbotabad and D. I. Khan were upgraded and improved and a new hospital is being built at Bannu. The hospitals at Charsada, Hangu and Nowshera were upgraded to Tehsil level hospitals. Two new tehsil level hospitals at Mansehra and Karak are in hand. About 15 Rural Health Centres have been completed in Peshawar and D. I. Khan Divisions. A new teaching hospital attached with Peshawar University. "Ayub Teaching Hospital" is under construction and is expected to be completed at a cost of about Rs. 25 million. The construction is in an advanced stage and it will be completed during the Fourth Plan period. The work on a Mental Hospital at Dhodial with a capacity of 80 persons is nearing completion. Besides these m ajor schemes a number of smaller schemes pertaining to Dental and TB clinics and provision of various health facilities have been under taken in various areas of the Province.

III. OUT-LOOK FOR FOURTH PLAN

87. In view of the difference in the level and stage of development of the three divisions, it will be imperative to devise and pursue different strategies in different divisions. Peshawar division has a large ongoing programme. In order to accommodate development requirements in the other two divisions, there will be a need not only to review the ongoing projects but perhaps also to recast them to some extent. The tempo of development in Agriculture sector will have to be maintained while a sizeable investment in Industries Sector will be required to balance the economy. Social services like Education, Health, low income housing and water supply will present pressing demands on the available funds and will have to be accommodated.

88. D. I. Khan division, on the other hand, is very backward in all sectors of the economy and is in urgent need of being brought up on the level of other areas in the province. The greatest need of the Division is provision of irrigation and drinking water. Social services are also in an under-developed stage.

89. Malakand Division has been created recently and there is absolutely no infrastructure to cater for even the administrative needs. There are no office and residential buildings at the divisional headquaters. Provision of infrastructure, therefore, will be of top most priority in this division.

The market mechanism has not favoured industrialisation in this region except Mardan and Nowshera areas. The reasons have been (a) distance from market of raw material supply (b) distance from port which is very important for exports and (c) lack of other facilities. These difficulties have impeded growth despite tax incentives and provision of Industrial Estates etc. In view of the constraints, no easy solution is possible. Public sector can only play a limited role in industrialisation. The strategy, therefore, has to be to motivate private sector through token public participation.

(i) Agriculture

90. The agriculture development in N.W.F.P. has so far followed the general pattern elsewhere in West Pakistan but with a special emphasis on development of forestry and fruit growing. This approach will be followed in the Fourth Plan in general.

91 The fixation of sugarcane prices on the basis of actual surcose content would have to be considered. Tobacco crop will need special attention. An effort will be made to augment Plant protection through private sector and meet the needs of agricultural machinery particularly of tractors etc.

92. The province is deficit in the production of foodgrains. It will be, therefore, necessary to build up sufficient storage to take care of the annual wheat consumption requirements which will have to be procured from surplus areas. The present storage capacity is about 80,000 tons while the total releases by the Food Department are estimated at about 220,000 tons. In view of this the construction of modern Silos instead of house type godowns and bins will have to be considered.

(ii) Water

93. The extension of irrigation facilities pose serious problems in the province due to shortage of water resources and difficulties of terrain. The possibilities of flow irrigation are very limited. In most areas, irrigation depends either on expensive storage dams or on pumping. As a result, the cost of water is generally very high.

94. Two of the most important ongoing programmes are Gomal Zam in D. I. Khan and Khanpur Dam in Hazara district. The total cost of Gomal Zam is estimated at Rs. 390 million and so far only preliminary work has been sanctioned, namely construction of colonies and preparation of design etc. N.W.F.P. Government will have to take a decision whether to proceed with the project or abandon it. It will be a serious decision and will affect the strategy in the water sector substantially.

95. Similar to Gomal Zam is the position of Khanpur Dam which is expected to cost Rs. 157 million out of which 34.3 million have already been spent. The economics of the project is not attractive for the purposes of irrigation.

96. Chasma Barrage is on river Indus located between D. I. Khan and Mianwali. Its primary objective is to divert water from Indus to Jhelum as part of Indus Basin Replacement work. However, the barrage would provide possibilities for irrigation to the right bank area in D. I. Khan district. WAPDA has already surveyed the right bank canal. This would be the most appropriate scheme to be taken up for providing irrigation water to D. I. Khan district.

97. Tarbela Dam project is within the boundaries of N.W.F.P. The execution of this project will create employment and also be instrumental in raising the level of general technical know how in the province. A huge sum is being paid, as compensation, to the people of the area and if this could be tied up with development effort of the area according to some scheme it will be useful. For example, if cooperative agriculture or a venture of this type could be financed from the compensation funds, it could raise the standard of living of the people and utilize the resources profitably.

98. A.D.C. will continue work on small dams and pick up weirs. It is engvisaged to take up new projects and also construct pick up weirs at Katha and Sultanpur.

99. One of the most serious problems, emerging in Peshawar, is that of waterlogging. It is estimated that about 1 million acres are being affected. WAPDA has already taken up the planning of a drainage and reclamation project for the Peshawar valley. It is expected that after supplementary investiagations, the project will be formulated in beginning of the Fourth Plan. The total cost of the project as estimated at present, is Rs. 80 million and it is envisaged to undertake the first stage of the project covering Peshawar and Mardan valley during the Fourth Plan at a cost of Rs. 40 million. This shall be given a high priority.

(iii) Industries

100. In order to encourage the establishment of industries, an all out effort will be required to step up the work of colonization at the two industrial estates established at Peshawar during the Third Plan period. Two of the most important

industrial projects which have come over to N.W.F.P. on account of merging of Malakand are Dir Forest Industries Complex and Development of Swat china clay. Both of these projects are to be taken up in the Fourth Plan and will call for substantial investment if work is to be completed within the Plan. The extension of Sui Gas to N.W.F.P. can help in the industrialisation process. Projects making use of gas, therefore, could be encouraged.

101. N.W.F.P. is known to have deposits of important minerals like iron ore, china clay, marble and emerald etc. No systematic efforts seem to have been made so far for exploring these minerals. In order to take up the work of mineral investigation, a Mineral Development Laboratory at Peshawar would be necessary. Along with large and medium scale industries, small scale and cottage industries are important in N.W.F.P. Quite a number of cottage industries have been established through Small Industries Corporation. This work will be suitably extended.

(iv) **Roads**

102. In the Road sub-sector, special attention will be given to Malakand and D. I. Khan Divisions. There has been a strong popular demand for a bridge over the Indus near D. I. Khan. It appears that the benefits of the project are not proportionate to the cost, particularly after Chasma barrage which will provide for a road crossing connecting D. I. Khan District. The proposal is, however, under consideration.

(v) **Physical Planning & Housing**

133. Peshawar valley's Master Plan is already in hand and its implementation will be taken up in the Fourth Plan. This will also ensure improved water supply. The ongoing scheme of Peshawar drainage will be completed and new water supply schemes for Peshawar, Nowshera, Charsada, Kohat and Bannu will be taken up.

(vi) **Education**

104. So far, most of the programmes, in the Education Sector were drawn up on West Pakistan basis. A review of the educational requirements of the province are being carried out. The main emphasis in the Fourth Plan will be on Primary education and science and technical subjects.

(vii) **Health**

105. The ongoing schemes pertaining to upgrading of various hospitals will have the first priority in the Health Sector. This includes a new hospital at Bannu, up gradation of hospitals at Charsada, Hangu and Nowshera and two tehsil level hospitals at Mansehra and Karak. Due to continuous rethinking, the scheme for the establishment of rural health centres could not make much progress during the Third Plan period. This will be recommended in the Fourth Plan. A major scheme that will require completion is that of "Ayub Teaching Hospital" at the Peshawar University. This would need an investment of about Rs. 15 million during the Plan period.

BALUCHISTAN

106. Baluchistan is the largest Province of Pakistan with an area of 126,000 sq. miles. The toal population of the Province according to the 1961 Census was only1.35 million. As a result, the density of population in 1961 was 11 persons per sq. miles which is the lowest in Pakistan. Since most of the Province provides very meagre means of economic support, more than 25 per cent of the population is concentrated in urban areas mainly in Quetta City.

107. The main stay of economic life of the province is agrciulture which engages more than 67 per cent of the civilian labour force but the cultivated area in the Province is only 3 per cent of the total which explains the very low share of Baluchistan in Gross Provincial Product of West Pakistan—2.1 per cent in 1968-69 as compared with 3.3 per cent share of population(1961). The GPP of Baluchistan in 1968-69 was Rs. 768 million out of which agriculture contributed Rs. 307 million or about 40 per cent of the total. Manufactures accounted for 6.5 per cent of the GPP with a contribution of Rs. 49 million.

Agriculture

108. The total area under cultivation in Baluchistan is 1.5 million acres out of the total reported area of 47.6 million acreas. The intensity of croppoing is 101. Major crops grown in the Province are wheat, rice, babacco, maize, Jowar. In addition, shall quanitites of gram, mustard and pulses are producted. Quetta Valley produces fruits of various kinds. However, these crops are insufficient to meet the requirements of the Province and the deficit is met through imports from other Provinces or other food products like dates, milk cheese, etc.

109. The production of various crops in 1968-69 was 74,000 tons of wheat, 5,000 tons of clean rice, 2.9 thousand tons of tabacco, 2.2 thousand tons of maize 21.7 thousand tons of jawar and 0.5 thousand tons of bajra. In addition, small quantities of gram, mustard and pulses are also grown.

110. Baluchistan is reported to be rich in mineral resouces. Surveys conducted by various agencies have indicated the presence of valuable minerals in the Province but their exact potential has still to be determined. However, with the exception of coal, sluphar, chromite and natural gas, no other minerals have been exploited so far.

111. The production of coal has been the oldest mining industry in the Province. Its produciton has risen from 0.13 million tons in 1949 to 0.48 million tons in 19d0. Production of chromite, however, has remained stationary at 22,000 tons a year. By far the greatest mineral resource of Baluchistan is the natural gas fields at Sui. At present the gas is being supplied to commerical and domestic consumers all over West Pakistan through a net work of pipe-lines. Total production of gas in 1969-70 was130,000 million cubic ft.

112. Baluchistan does not have a large industrial sector. The only industrial establishments are pharmaceuticals and alcoholic beverage manufacturing plants at Quetta and a Woollen Textile Mill at Hurnai. However, small scale industries mainly producing handicrafts of the area are spread all over the Province. There are also some date processing and fish drying plants in various parts of the Province. However, there is need for the development of industries based upon local raw materials like woollen textiles, fruit processing, parmaceutical and the fish processing inudstries along the coast of the Arabian Sea.

Physical Infrastructure :

113. The total mileage of roads in the Province is reported to be 6,544 miles out of which 885 miles are high grade and 5,659 miles are of lower grades. The RCD Highawy now under construction would also pass through the Provinces. The length of the railway line is 642 miles of broad gauge and 183 miles of narro gauge. Most of the roads and railway lines have been built keeping in view the strategic consideration rather than economic. A review of the transport system will be necessary to provide all -season roads linking important towns as well as the areas with potential of economic development.

114. Major problem of the Baluchistan Province is the paucity of drinking and irrigation water. Since there is no major source of water in the area, the provision of water has been dependent upon small water schemes of which there are now 176 in Quetta Division and 94 in Kalat Division. In addition there are 60 flood diversion wiers in Quetta and 90 in Kalat Division. About 47 small dams have also been built for the purpose of storing water. About 241 tubewells are also working in the Quetta and Kalat Division.

115. The major source of power in the Province is the Quetta Thermal Power Station which has a generation capacity of 15 MW. This station is being expanded to add ano her 9.5 MW capacity.

Social Infrastructure

116. The literacy percentage in Quetta Division in 1961 was 13.2 while it was only 3.9 in the Kalat Division. In 1964-65, Baluchistan had 1,165 primary schools 120 Middle schools, 55 High Schools, 6 Inter and Degree Colleges and a polytechnic. The distribution of educational institutions needs a review so that the facilities are spread all over the Province rather than concentrating only in one or two towns.

117. Presently, there are 22 large and small hospitals in the Province with a total strength of 1,328 beds. In addition, there are 123 despensaries with a bed strength of 161 besides 2 clinics and 11 health centres with 40 beds. All these beds taken together give a ratio of 11 beds for 1000 population as comapared to the national ratio of 5.2 bed for 1000 population. The main problem in this Province in this regard will be the raising of the standard of medical services so that they come within easy reach of the small villages and the widespread nomadic population of Baluchistan.

II. REVIEW OF DEVELOPMENT

118. Baluchistan region has received special attention during the Second and the Third Plan, as the province received higher shares of allocationas compared to its share in population.

119. During the year 1960-61 , the size of development outlay was Rs. 2.2 crores which reached Rs. 6.6 crores in 1964-65. The total allocation during the 2nd Plan was Rs. 24.4 crores. Assuming a shortfall of 20 per cent about Rs. 20 crores were spent on development schemes in various sectors. It is estimated that the 3rd Plan about 35 crores would have been spent.

120. Provision and development of water resources is of paramount importance in Baluchistan. A number of different water development schemes were started in the province during the Second and the Third Plans. The expenditure involved on the completion of these schemes has been estimated at 25.94 million in Quetta and 27.254 in Kalat. The total area served with irrigation facilities is estimated at 130,000 acres in Quetta and 55,000 in Kalat. These irrigation schemes have stabilised the irrigation system previously dependeant upon the vagaries of nature.

121. A major problem facing the province was the depletion of the underground water reservoir due to tube-wells installed in Quetta and Mastung valleys. For re-charging the ground water, a number of Delay Action Dams were envisaged. One such dam has already been completed at Brewery Tangi near Quetta. Other such dams like Murghi Kotal about 13 miles from Quetta Duzdarg near mastung, and the Kassidara are nearing completion. Other schemes on which work has already been started are Bolan dam project, Wan Tangi dam and Seriab dam project. Further investigations in these fields are in hand.

122. A number of schemes in the agriculture sector covering agriculture research, fruits development, nurseries, forestry including range management and Animal Husbandary have been completed during this period.

123. Special attention has also been paid to the development of mineral resources. The development of coal deposits in central block of Sore Range were completed at a cost of Rs. 29 million. The development of Sharigh coal mines and Degari mines at a cost of Rs. 28 million and Rs. 38 million respectively, are in progress on which Rs. 21 million and Rs. 30 million have already been spent. A pilot project of low Temperature coal carbonization has been taken up at an estimated cost of Rs. 2.0 crores which is in its initial stages of implementation.

124. A Small Scale Industrial Estate at Quetta has been completed and a number of projects on small industries like spinning and weaving centres in Masttung, small scale tannery at Sibi, training centre for carpet industry at Naushki, and at Chamman, besides other small schemes either completed or in an advanced stage of completion.

125. Work is already in hand for water supply of greater Quetta at a cost of Rs. 7.1 million out of which substantial portion ha s been spent. About a dozen water supply schemes in various district towns of the province have been completed. Divisional headquaters at Khozdar have been completed at a cost of 1.2 crores.

126. The most important scheme of roads sector, is RCD highway through Baluchistan which is in progress. The overall progress has been about 75%. The portion from H[illegible] Chowki to Khuzdar and Kalat to Khuzdar are in advance stage of completion. The portion from Baratagzai to Tafta is, however, in preliminary stages. The total cost of the RCD highway is estimated at about Rs. 6 crores. out of which more than Rs. 3 crores have already been spent on Sections (i) and (ii) mentioned above.

127. A number of important roads like Quetta-urk, roads in sore range, roads in dera bughti area have been completed. Schemes of various categories of roads which are in hand, total up to about 5 crores. Most of the schemes will go into the Fourth Plan.

128. In the Education sector, major schemes were undertaken on programmes run on West Pakistan basis , out of which Baluchistan got its share on equalization formula. The West Pakistan programmes included ; Establishement , upgrading and improvement of primary schools ; addition of industrial art courses, construction of hostels, introduction of Science, upgrading of Middle schools to High Schools, supplying of science appratus, construction of art/drawing rooms, establishment of Comprehensive Schools, opening of Inter Science and Degree Colleges and implementation of the report of the Student Commission. A decision to establish a University at Quetta has already been taken.

129. A Polytechnic Institute at Quetta has been established and Government vocational schools for girls at Kalat and Quetta have been re-organised. Similarly, Government Institute for boys at Khuzdar and Loralai and Industrial schools for boys at Mastung have been completed.

130. Extension of building for additional T.B. beds in Fatima Jinnah T.B. sanitarium at Quetta and improvement and extension of Sandiman civil hospital have been completed and a district headquarters hospital at Loralai is in the final stages of completion.

III. OUTLOOK FOR THE FOURTH PLAN

131. Baluchistan is among the least developed areas of the region. It has a large area but its known natural resources are still not large. The highest priority in the Fourth Plan for the Province would be investigation, survey and development of projects best suited to solve the pressing problems of this less developed Province.

132. The greatest potential of the Province is in mineral wealth. In this field also proper, extenive and scientific investigations are yet to be taken up. Fish resources along Mekran Coast are reported to be rich. A feasibility study has already been completed. Development of Mekran Coast fishing should therefore, have a high prioriy. There is also the possibility of developing a port on the Mekran Coast. This has to be fully explored.

133. Next to minerals, the development of water and power resources deserve a high priority in the Province. There is acute shortage of water and perhaps the available water is not being used most economically and efficiently. Search for fresh sources of water, particularly the underground water, will need to be carried on more vigorously. It appears that search for water so far had been concentrated in the scarcity areas rather than abundant areas. The strategy of water exploitation and development should, therefore, be revised and water resources should be exploited and developed in all regions. Power is required not only for industrial and household use but for development of water resources, running of tubewells etc. Power development will , therefore, have to go hand in hand with water and agriculture.

134. The vastness of the Province demands a quick and efficient development of roads and communications system. A sizeable effort has gone into this sector during the previous Plans and it should receive a high priority during the next Plan.

135. The development of agriculture sector particularly fruit culture, range management and livestock are also important in Baluchistan's economy. The area is rich in fruits but due to the lack of packing and processing industries and also due to inadequacy of transport and other facilities, full use of fruits wealth is not being made. The Plan, therefore, will address itself to this important sub-sector.

136. Kalat Division is comparatively backward for various reasons. Special attention to the development of this Division is, therefore, called for.

137. To sum up the sectoral priorities emerging in Baluchistan are, mineral development, water and power, roads and communications and development of agriculture particularly fruits culture and range management. In the process, social sectors development will be protected to the maximum possible limits.

(i) Mineral development and Industry

138. The development of mineral resources during the Fourth Plan will include the efficient exploitation of coal deposits in Khust, Sharigh, Harnai, Sore range and Degari and Chromite in Khanozai, Hindu Bagh and Nasi, Marble depostis of Chagi, lead of Ziarat and Balanosh and Magnasite of Nasi. The on-going projects to be completed during the Fourth Plan include development of coal deposits in Sore range, Sharigh and Degahri and Low Temperature

Coal Carbonization Plant at Quetta. The amount already spent on these schemes costing Rs. 130 million is only about 20% of the total .. An adequate provision will be made for these projects in the Plan.

139. In view of the pressing demands of the on-going projects, it appears unlikely, that adequate funds will be available for exploitation of new minerals. But surveys and investigations will be initiated in respect of Barite deposits near Khuzdar, Laberite and Laterite near Ziarat, Bromite in Zhob valley, Copper in Bandgan and Rasuk and near Pakistan-Iran border. There is also a need to undertake research to separate Iron from Laterite.

140. The efficient exploitation of mineral resources primarily requires a Prenvestment Land Use Survey involving aerial photography and its inter pretation. Such aerial survey and remote sensing devices can yield information, on mineral potential, development of future roads, pattern of human and livestock population, water resources utilization, etc. Some parts of the area have already been photographed by air. Their interpretation is being undertaken under the " Pre-Investment Land Use Survey Scheme " located in N.W.F.P. The work on such surveys and aerial photography will be accelerated, may be in co-operation with the programme being undertaken in N.W.F.P.

141. Steps will also be taken to set up industrial inputs in the recently established small Scale Industrial Estate at Quetta. Baluchistan offers facilities for industries like fruit preservation, fish-freezing and preservation and drying, date packing and date sugar, carpet making, woollen textile and marble etc. Possibilities of developing these industries will be exploited during the Fourth Plan.

(ii) Water and Power

142. In order to develop water resource effectively, the strategy in this subsector will be to arrange for proper investigations to assess the total water availability in the Province and to prepare a unified Plan for the exploitation of both surface and underground water. It is estimated that every year 50 crores cubic ft. water is lost through floods. It is presumed that at least half of this quanitity can be utilized for irrigating about 2 lakhs acres of land. It is also estimated that the existing underground water supply in Quetta valley which is about 40 to 50 thousand cub-ft. per second can be increased, by proper measures, by another 15 to 20 thousand cubic ft. per second. Water can be extracted through wells, tube-wells and in certain areas particularly in Zargam through rock drilling.

143. The ongoing schemes which comprise of small Irrigation Schemes, Karez Linings, Mangi Pumping Station and Survey of Kachi Plains will be completed.

144. Production of power will also need to be raised in view of increasing demand which has grown from 9.7 MW in 1960 to 15.0 MW in 1970. At the moment installed generation capacity from completed Scheme of Quetta Thermal is 15.0 MW. Addition of another 9.5 MW is in hand which will be completed by end of 1970. It is envisaged that another 15MW will be added through additional generating sets by 1972. It is also planned to instal a 30 MW Station at Sharigh after 1972 at a cost of Rs. 5.0 crores. Addition of 24.5 MW by 1972 will involve an investment of about Rs. 7.5 crores.

(iii) Roads and Communications

145. Roads and communications sector received adequate attention particularly during the 3rd Plan. It is estimated that about Rs. 5.8 ceores were spent on road development including RCD Highway. The RCD Highway from Hub-Chowki to Khuzdar has been completed, while the section from Khuzdar to

Kalat and Baratagzai to Qilla Sufaid is in progress. Service road from Bela to Turbat and Pashin is also in hand including the improvement of Quetta and Chaman road.

146. Since the growth in traffc is not very rapid, widening and reconditioning of existing roads should have lower priority than construction of new roads.

147. At present only important cities and districts headquarters are linked with each other by roads. An attempt will have to be made in the Plan, to link up interior regions with tehsil and district headquarters. Development of roads in the mining areas is also important. A regular coastal service should also operate between Karachi, Gowadar, Mekran, Pasni and Jiwani.

148. Baluchistan has so far no worthwhile outlet to the sea. Consideration will have to be given to developing Gowader/Pasni as possible sea ports. At least, feasibility of developing a port will have to be studied during the Plan period.

(iv) **Agriculture**

149. In agriculture sector, whilst the Mekran coast offers good potential for fisheries development, Loralai district is suited for range management and Quetta area for fruits and vegetable ; the rest of Baluchistan has little potential for agriculture development. Agriculture in Baluchistan is linked up with availability of irrigation water. Wherever it is available, it has very high value and is used for cultivating high value crops, vegetables and fruits. Any expansion of water availability, therefore, can be used for increasing acreage under orchards and vegetable. Sibi-Jhatpat project is an attempt in this direction.

150. Wheat and Jowar account for about 8 per cent of the total cropped area. The production of wheat at the end of 3rd plan was 1.05 lakhs tons. The target for the last year of the Fourth Plan will be 1.44 lakh tons. With this production level, the annual deficit will be about 50 thousand tons.

131. Livestock is an important sub-sector of agriculture in Baluchistan. The major programme is distribution of good quality bulls and rams for improvement of the stock. This will be continued and arrangement will be made for adequate medicines for preventive and curative work. A beef production research project has been established, work on which will be continued. Three new veternary hospitals have been established at Chaman, Baskan and Musakhel. Further necessary improvements will continue.

152. Adequate provision will have to be made for storage of foodgrains. The existing storage capacity is about 41,450 tons whereas the requirements are more than 50,000 tons. Additional storage space will, therefore, be required.

153. Range arrangement and Forests are important in a province like Baluchistan which have to be looked after and improved. The ongoing schemes of Hub area will be carried through. A new scheme in Kalat Division will be taken up. The potential areas for range management lie in Loralai, Sibi and Quetta districts. The possibilities of development in these areas will be explored.

154. Fisheries sub-sector is of great potential value in Baluchistan. A feasibility study on fish wealth of Mekran Coast has already been completed. The main emphasis has to be on the development of Mekran coast fisheries. Fish Curing Yards could be established at Jiwani and Ormara. In this respect, development of Gowadar port will be of great assistance, whereby the earnings from fish industry could be raised from Rs. 1 crore to Rs. 3.5 crores annually within a period of 10 years. Besides modernisation of fish curing yeards at Gowadar, Jiwani, Ormara an Institute is proposed to be set up for the training of fishermen for operating mechanized launches.

155. For development of fisheries on the Mekran coast, a substantial emphasis on building up of infrastructure in the form of vessels ships and ports, curing yards and sweet water availability will be necessary. Due to heavy investment involved, perhaps, this could be taken up only through special assistance from the Central Government.

(v) Social Sectors

156. During the Third Plan period, it is estimated that about 1.3 crores were spent on educational facilities. The priorities given were to the technical, and secondary education and scholarship. As a result of investment in education sector, enrolment as percentage of the relevant age group, in the case of primary education-increased from 13.9% to 19.1%. On-going programme will be completed and the newly established University will be developed.

157 The overall position of health facilities in Baluchistan is better than other areas. The ratio of beds is 11 per thousand as against an average of 5.2 beds per thousand for West Pakistan. During the Third Plan period, relatively greater stress was laid on preventive measures such as Malaria Eradication, BCG, Family Planning. Besides, completion of schemes of various health facilities in hand, special emphasis will be placed on the establishment of rural health centres.

FRONTIER REGIONS

158. Recent admnistrative changes have affected the composition of Frontier Regions. Originally, Frontier Regions comprised of Mohmand, Khyber and Kurram agencies in Peshawar Division besides special areas attached to its districts; North and South Waziristan agencies of D.I. Khan Division and attached districts and Malakand agency including states of Dir, Swat and Chitral. In the new set up, Malakand agency together with three former states of Dir, Swat and Chitral have been constituted in a new division of Malakand and merged with N.W.F.P. Thus, the Frontier regions comprises of all the previous areas included in this category minus the newly created Malakand Division except Bajour area. The Annual Development Programme for newly constituted Frontier regions has been framed separately and all these areas will henceforth be under the administrative charge of the Central Government. The review in this chapter, however, is mainly based on the areas constituting Frontier region before the new set up.

159. Geographical characteristics differ widely within the frontier regions. Whereas Khurram agency is a 115 sq. miles of mainly barren tract, Waziristan region including both the South and North agencies is a mountainous country providing very few opportunities for cultivation in large open tracts. In the Kurram agency irrigated land is about 4,000 acres and its elevation above sea level is 5,000 ft. The total cultivated area in North Waziristan is about 17,000 acres & about 40,000 acres are cultivable waste land. Out of these, the largest compact block of land is area Sheratallah Plain extending over 22 square miles.

160 Khyber agency includes Khajuri plain which is situated on the border of the Peshawar district. Mohmands agency also includes tracts fit for cultivation and is irrigated by Warsak left bank canal.

II. REVIEW OF DEVELOPMENT

161. Frontier regions got special treatment during the Second and Third Plans. In the year 1960-61, the allocation was Rs. 12.59 million which was raised to Rs. 23.36 million by the end of Second Plan. The total allocation during the second Plan was Rs. 80 million, allowing for a 20% shortfall, about Rs. 65 million were actually spent. In the Third Plan, total allocation was raised to Rs. 100 million but on account of a larger shortfall the actual expenditure is estimated at Rs. 60 million.

162. In the Second Plan, Agriculture, Transport and Communications, Education and Health were given priority Water sector was also given adequate attention. In the Third Plan the same priorities were followed with an enhanced allocation to water and agriculture sectors. The development effort during the last 10 years has made a tremendous impact on the development of Frontier regions. The most significant effect has been that the areas have become development oriented and infrastructure has been provided for mounting a larger development effort.

163. Adequate funds were made available during the Second Plan for the development of agriculture and water sectors so that a start could be made for gearing the economy to cater to its own needs. The major programmes initiated and completed were; land reclamation scheme, control of plant disease, afforestation and soil conservation scheme. building of veterinary hospitals, dispensaries and construction of 100 miles of roads in Kalam and Swat, and Indus Kohistan. For the development of water resources, three major schemes were under execution in addition to a number of smaller schemes. Bara River canal project has been under implementation, besides Zaran irrigation scheme in Kurram agency and Gandigar irrigation scheme.

164. The development of roads was given special attention to improve communications with an allocation of Rs. 13.92 million. A number of new roads were constructed and existing ones improved like road from Yusuf Khel to Noagai and blacktopping of the road from Chakdara to Timargarh. In the Education sector greater stress was placed on award of sholarship to the tribal students, opening of Primary Schools and upgrading of Middle Schools to High Schools. A degree College was established at Thana. In the Health Sector, 100 bedded TB Sanitorium at Razmak and Civil Hospital at Mir Ali Wana was constructed. Training was provided to 55 tribal boys as compounders. These programmes were in addition to the Rural Works Projects which included a variety of development activities in the rural areas with an allocation of Rs. 13.25 million . In the small Industries Sector, a large number of Woollen training-cum-production centres were started in addition to the extension of Sericulture centre at Chitral, Parachinar and other places.

165. The Second Plan priorities and development continued during the Third Plan. A number of survey and investigation schemes in water sector were under taken. The priority was given to programmes in Agriculture, Water, Education and Transport Sectors.

166. The major programmes initiated in Agriculture included, reorganisation of Plant protection and extension services, Reclamation & development of land and opening of 20 veterinary dispensaries.

167. For the development of water resources, it is estimated that about Rs. 15.80 million was spent during the 3rd Plan. The schemes under implementation were; Bara river canal, Gandigar Irrigation, Malana Irrigation and Survey & Investigation.

168. In the Education Sector, the number of teaching institutions were raised from 309 in Second Plan to 522. Both internal as well as foreign Scholarships were awarded to tribal students. Two technical workshops were attached to Govt. High School Jamrud & Subhan Khawar. One hundred primary schools were opened and 40 raised to High School level besides opening an Intermediate College at Miranshah.

169. Besides completion of T.B. Sanitorium at Razmak, 35 dispensaries were opened, 16 in Peshawar and 19 in D.I. Khan, tribal areas.

170. About nine schemes of new roads were taken up ; important among them being Soiling, metalling and Surfacing of Tanai Gul Katch road and Boya Datta Khel road and a new road from Chattar Plain to Batagram.

171. Scholarships were awarded for training in industries and centres for Patti making were started at Swat and Dir and Drugget making at Dir.

172. Thus by the end of 3rd Plan, a sizeable portfolio of workable schemes was available for tribal areas. The apathy to development had been broken, and tribal areas were exposed to general development taking place outside these areas.

III OUT LOOK FOR THE FOURTH PLAN

(i) General Strategy :

173. The basic strategy for development in these areas has already been initiated during the Second and Third Plans. This will be follwed in the Fourth Plan with greater emphasis on Education.

174. The primary need of the Frontier regions is that these areas should be connected by roads with the developed regions so that the general apathy which is surrounding them for centuries may be broken. Next in importanée to roads is provision of drinking water and irrigation facilities to develop agriculture. With these facilities and the spreading of education the way for overall development will be opened. Health facilities are completely lacking but unless the people are educated and understand the meaning of health programmes, efforts, in this sector will not be very successful.

175. Forest wealth is reported to be immense but its exploitation is again full of problems mainly on account of the attitude of the people and inaccessibility of the areas. Forest development will, therefore, be tied up with the development of roads and general education.

176. The areas are also reported to be rich in various minerals but there is very little exploitation for reasons already stated. Programmes will be initiated in the Fourth Plan to exploit this mineral wealth.

177. A lot of initial development effort has already gone in the Frontier Regions during the last two Plans. The basic strategy in the Fourth Plan will be to consolidate the results of these efforts and to make an all out attempt to provide better education and transport facilitise. The establishment of a Development Corporation for the Frontier Retgions is also under consideration.

(ii) Sectoral programme :

178. Reclamation and development of land for agriculture will be the major programme in the Agriculture Sector. Schemes are already in hand both in tribal areas of Peshawar and D.I. Khan which will be completed during Fourth Plan. Control of Insect and Pest and other diseases has already been introduced and will be carried further. In order to train tribal students in agricutlure, award of scolarships will be increased. Fruit culture is a profiable activity and will be encouraged.

179. In the Water Sector, besides specific schemes, survey and investigations are of great importance in these areas to assess the feasibility of workable schemes and also to find out new sources. Bara River canal in Peshawar tribal area and Malana Irrigation scheme are on going projects which will go to the Fourth Plan. In D.I. Khan Division, besides ongoing irrigation schemes tubewell scheme will

be ongoing from the Third Plan. Among the new schemes Shintungi Irrigation and Subhan Khawal Irrigation Scheme (In Peshawar division) and Wana Plain Irrigation Scheme in South Waziristan will be taken up. Mass mulitplication of Sheep and cattle are important fields in Animal Husbandry. These will be taken up besides setting up veternary dispensaries Scholarships have already been provided to the tribal students for education and veternary science. These activities will be, therefore, continued. Forestry, soil conservation and range management, and setting up of forest nurseries are on going programmes and these will be suitably extended. Drinking water supply scheme in Parachinar and Khyber Agency will be taken up besides provision of essential residental and non-residential buildings.

180. In the Industries sub-sector, the main activities have been providing of stipends to the trainees in various industrial centres like Wana and Miranshah. These will be continued and new training centres established.

181. In the Education sector the programmes of establishement of primary schools and upgrading Middle schools to High Schools will continue besides providing scholarships to the tribal students. Construction of to hostels at the Campus of Peshawar University for tribal students will be undertaken. In Malakand Division four Middle Schools will be raised to High Schools status, six primary schools to Middle status besides opening up of a number of new primary schools.

182 In the Health Sector, besides completion of ongoing schemes, civil hospital at Parachinar and existing hospitals at Wana and Miranshah will be raised to Agency headquarters level.

183. A number of roads schemes will go into the Fourth Plan as ongoing schemes. Among the new schemes which are likely to be taken up in the Fourth Plan will be, road from Zargri to Chappar, metalling of Mullah Gori road and construction of a bridge on Thal Parachinar road on Kurram river in Peshawar division. Similarly, in the D.I. Khan division a number of new roads are envisaged in South Waziristan areas attached with Bannu district.

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